

## Appendix F

### Comments Received During the Scoping Period

#### Total of 9 Comments:

- 1 Meeting Comment Card
- 1 E-Mail
- 7 Electronic Letters

Letter 1 (E-mail)	Quechan Indian Tribe
Letter 2	EPA Region 9, Environmental Review Office
Letter 3	MCI-West, Regional Environmental Office
Letter 4	NAVFAC Southwest
Letter 5	Center for Biological Diversity
Letter 6	Joyce Dillard
Letter 7	Defenders of Wildlife
Letter 8	Wildlife Research Institute
Letter 9 (Meeting Comment Card)	The Wildlands Conservancy



Charlotte  
Hunter/CASO/CA/BLM/DOI  
03/23/2010 02:25 PM

To Carrie Simmons/CASO/CA/BLM/DOI@BLM  
cc Daniel Steward/CASO/CA/BLM/DOI@BLM, John  
Dalton/CASO/CA/BLM/DOI@BLM, Rolla  
Queen/CASO/CA/BLM/DOI@BLM

bcc

Subject Re: Fw: West Chocolate Mountains Renewable Energy

In general, I'd say that we are limited in what we can do or require applicants to do by laws that have been passed by Congress.

We can only require the applicant to survey the area of their application for a Right of Way based upon NHPA Section 106. The law does not allow us to require surveys outside of the area of potential effect.

In response to paragraph 3: We accept applications for Rights of Way but there is no guarantee that the project will be funded or that the ROW will be granted. Anyone can make an application. That does not mean that we will grant an endless number of ROWs. If we were to exclude anyone from the application process for any reason, we would be discriminating against them. We cannot do that, of course. It is against federal laws.

My thoughts and keeping it simple,  
Charlotte

Carrie Simmons/CASO/CA/BLM/DOI



Carrie  
Simmons/CASO/CA/BLM/DOI  
03/23/2010 01:05 PM

To John Dalton/CASO/CA/BLM/DOI@BLM, Daniel  
Steward/CASO/CA/BLM/DOI@BLM  
cc Rolla Queen/CASO/CA/BLM/DOI@BLM, Charlotte  
Hunter/CASO/CA/BLM/DOI@BLM  
Subject Fw: West Chocolate Mountains Renewable Energy

I feel we need to respond to this email especially her third paragraph. John, what would you suggest?  
Anyone else?  
Thanks

Carrie L. Simmons  
Archaeologist  
El Centro Field Office  
Bureau of Land Management  
1661 S. 4th Street  
El Centro, CA 92243  
(760) 337-4437  
Fax (760) 337-4490

— Forwarded by Carrie Simmons/CASO/CA/BLM/DOI on 03/23/2010 01:04 PM —



"Bridget Nash"  
<b.nash@quechantribe.com>

03/19/2010 02:33 PM

To <Carrie\_Simmons@ca.blm.gov>,  
<Jenny\_Blanchard@ca.blm.gov>, <jdalton@ca.blm.gov>  
cc

Subject West Chocolate Mountains Renewable Energy



Good afternoon –

The Quechan Tribe has several concerns regarding the proposed evaluation area. Many of these concerns have been voiced in previous discussions regarding the leasing of lands south of the CMAGR for geothermal exploration.

As you are aware, the area is rich in cultural resources. Known sites include temporary camps, villages, cremations, trails, pot drops, etc. Each site is integral to the next. If the area is opened for solar, wind or geothermal development, the area must not be parceled. Each project area must be evaluated in context with the others. The entire evaluation area must be surveyed for cultural resources at one time so that the Tribe can make an informed decision about the projects once proposed.

Also, the Committee is curious as to why BLM would continue to approve renewable energy projects when more than enough applications have been received to meet the demand already.

We look forward to discussing this matter in more detail with you in the future.

**Bridget R. Nash-Chrabascz**

Quechan Tribe Historic Preservation Officer

Quechan Indian Tribe

PO Box 1899

Yuma, AZ 85366

760-572-2423



"Bridget Nash"  
<b.nash@quechantribe.com>

03/19/2010 02:33 PM

To <Carrie\_Simmons@ca.blm.gov>,  
<Jenny\_Blanchard@ca.blm.gov>, <jdalton@ca.blm.gov>

cc

bcc

Subject West Chocolate Mountains Renewable Energy

Good afternoon –

The Quechan Tribe has several concerns regarding the proposed evaluation area. Many of these concerns have been voiced in previous discussions regarding the leasing of lands south of the CMAGR for geothermal exploration.

As you are aware, the area is rich in cultural resources. Known sites include temporary camps, villages, cremations, trails, pot drops, etc. Each site is integral to the next. If the area is opened for solar, wind or geothermal development, the area must not be parceled. Each project area must be evaluated in context with the others. The entire evaluation area must be surveyed for cultural resources at one time so that the Tribe can make an informed decision about the projects once proposed.

Also, the Committee is curious as to why BLM would continue to approve renewable energy projects when more than enough applications have been received to meet the demand already.

We look forward to discussing this matter in more detail with you in the future.

**Bridget R. Nash-Chrabascz**

Quechan Tribe Historic Preservation Officer

Quechan Indian Tribe

PO Box 1899

Yuma, AZ 85366

760-572-2423



Gassman.David@epamail.epa.gov

03/12/2010 01:28 PM

To John\_Dalton@ca.blm.gov

cc

bcc

Subject Faxing - EPA's scoping comments on the West Chocolate Mountains Renewable Energy Evaluation Area - Main #5582

even the correct west choco email address bounces back.

----- Forwarded by David Gassman/R9/USEPA/US on 03/12/2010 01:24 PM -----

From: David Gassman/R9/USEPA/US

To: cawestchocolate@ca.blm.gov

Date: 03/12/2010 01:08 PM

Subject: Faxing - EPA's scoping comments on the West Chocolate Mountains Renewable Energy Evaluation Area - Main #5582

Hi John,

I am unable to scan & email at this moment. 22 pages by fax should be there momentarily. We will also be sending you a hard copy via the postal service.

Thank you for providing us with the opportunity to submit comments. Please contact Ann if you have any questions regarding the comments.

Regards,

David Gassman (415) 972-3385 for

---

Ann McPherson  
Environmental Scientist  
U.S. EPA Region 9  
Environmental Review Office  
Communities and Ecosystems Division, CED-2  
75 Hawthorne Street  
San Francisco, CA 94105

Tel.: (415) 972-3545

Fax: (415) 947-8026

email: mcpherson.ann@epa.gov



Gassman.David@epamail.epa.gov

03/12/2010 01:50 PM

To John\_Dalton@ca.blm.gov

cc McPherson.Ann@epamail.epa.gov

bcc

Subject EPA's scoping comments on the West Chocolate Mountains Renewable Energy Evaluation Area - Main #5582

Our scanner is back & so here is a PDF.

----- Forwarded by David Gassman/R9/USEPA/US on 03/12/2010 01:46 PM -----

From: David Gassman/R9/USEPA/US

To: John\_Dalton@ca.blm.gov

Date: 03/12/2010 01:28 PM

Subject: Faxing - EPA's scoping comments on the West Chocolate Mountains Renewable Energy Evaluation Area - Main #5582

even the correct west choco email address bounces back.

----- Forwarded by David Gassman/R9/USEPA/US on 03/12/2010 01:24 PM -----

From: David Gassman/R9/USEPA/US

To: cawestchocolate@ca.blm.gov

Date: 03/12/2010 01:08 PM

Subject: Faxing - EPA's scoping comments on the West Chocolate Mountains Renewable Energy Evaluation Area - Main #5582

Hi John,

I am unable to scan & email at this moment. 22 pages by fax should be there momentarily. We will also be sending you a hard copy via the postal service.

Thank you for providing us with the opportunity to submit comments. Please contact Ann if you have any questions regarding the comments.



Regards,

Davd Gassman (415) 972-3385 for

---

Ann McPherson  
Environmental Scientist  
U.S. EPA Region 9  
Environmental Review Office  
Communities and Ecosystems Division, CED-2  
75 Hawthorne Street  
San Francisco, CA 94105

Tel.: (415) 972-3545

Fax: (415) 947-8026

email: [mcpherson.ann@epa.gov](mailto:mcpherson.ann@epa.gov)



[West Chocolate Mtns.pdf](#)



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX

75 Hawthorne Street  
San Francisco, CA 94105-3901

MAR 12 2010

Mr. John Dalton  
BLM California Desert District Office  
22835 Calle San Juan de Los Lagos  
Moreno Valley, CA 92553-9046

Subject: Notice of Intent to Prepare an Environmental Impact Statement for the Proposed West Chocolate Mountains Renewable Energy Evaluation Area, Imperial County, CA

Dear Mr. Dalton:

The U.S. Environmental Protection Agency (EPA) has reviewed the February 10, 2010 Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) for the Proposed West Chocolate Mountains Renewable Energy Evaluation Area (REEA) in Imperial County, California. Our review was conducted pursuant to Section 309 of the Clean Air Act, the National Environmental Policy Act (NEPA), and the Council on Environmental Quality (CEQ) NEPA implementing regulations (40 CFR Parts 1500-1508).

The Bureau of Land Management (BLM) intends to prepare an Environmental Impact Statement (EIS) for the proposed West Chocolate Mountains REEA. The focus of the EIS is to assess whether 21,300 acres within the West Chocolate Mountains REEA should be made available for geothermal, solar, and wind development. To assist in the scoping process, we have identified several issues for your attention in the preparation of the EIS. These issues are described in the detailed comments section and are subdivided into two main categories as follows: 1) recommendations on the overall scope and content of the West Chocolate Mountains REEA EIS; and 2) recommendations pertaining to NEPA/renewable energy projects.

We appreciate the opportunity to review this NOI and are available to discuss our comments. When the Draft EIS is released for public review, please send two hard copies and one cd to the address above (mail code: CED-2). If you have any questions, please contact me at (415) 972-3545 or [mcperson.ann@epa.gov](mailto:mcperson.ann@epa.gov).

Sincerely,

Ann McPherson  
Environmental Review Office

Enclosures: Detailed Comments



**US EPA DETAILED COMMENTS ON THE SCOPING NOTICE FOR THE PROPOSED WEST CHOCOLATE MOUNTAINS RENEWABLE ENERGY EVALUATION AREA, IMPERIAL COUNTY, CALIFORNIA, MARCH 12, 2010**

Project Description

The Bureau of Land Management (BLM) intends to prepare an Environmental Impact Statement (EIS) for the proposed West Chocolate Mountains Renewable Energy Evaluation Area (WCM REEA). The focus of the EIS is to assess whether 21,300 acres of BLM-administered lands within the WCM REEA should be made available for geothermal, solar, and wind development. The EIS will consider an amendment to the California Desert Conservation Area (CDCA) Plan to identify whether lands within the WCM REEA should be made available for renewable energy development.

**I. Recommendations on the Overall Scope and Content of the WCM REEA EIS**

*A. Environmental Analysis*

*Recommendation: Identification of Premium Geothermal, Solar, and Wind Resource Development Areas*

The EIS should identify the premium geothermal, solar, and wind resource areas in the WCM REEA. The EIS should describe and summarize the key studies and information used to identify these areas. The BLM should coordinate with local, state, and federal agencies to compile this information.

*Recommendation: Identification of Sensitive Resources*

When identifying premium geothermal, solar, and wind resource areas, the EIS should also identify environmentally sensitive areas as well as areas with potential use conflict including:

- 1) areas that contain species that are threatened or endangered;
- 2) migratory bird flyways;
- 3) aquatic resources, including wetlands and other Waters of the U.S. (WOUS);
- 4) bodies of water listed on the Clean Water Act (CWA) 303(d) list;
- 5) ambient air conditions and criteria pollutant nonattainment areas;
- 6) sole source aquifers;
- 7) areas that are affiliated with Native American tribes;
- 8) historic properties, Native American sacred sites or sensitive areas, and cultural resources;
- 9) paleontological resources;
- 10) large residential areas in close proximity;
- 11) environmental justice communities;
- 12) military bases or areas with air and ground traffic; and
- 13) recreational use areas.

Measures should then be taken to either exclude these areas from development or identify appropriate stipulations to protect the resources. The EIS should disclose the potential

impacts to the greatest extent possible, while setting up structures to protect sensitive resources.

*Recommendation: Development of Landscape Level Analysis*

The EIS should utilize existing sources of information to develop a general, landscape-level analysis that identifies environmentally sensitive areas and areas with potential use conflicts. The BLM should develop an analysis approach that identifies low, medium, and high sensitivity areas for these resource areas and describe this process in detail in the EIS. The BLM should coordinate with local, state, and federal agencies to compile this information.

*B. Associated Infrastructure*

*Recommendation: Transmissions Lines Needs Analysis*

When identifying premium geothermal, solar, and wind resource areas, the EIS should also identify:

- 1) areas with established transmissions lines;
- 2) areas where there is a lack of available transmission capacity;
- 3) areas where new transmission lines have been proposed in conjunction with other projects; and
- 4) areas that should be designated as transmission corridors in scenic areas.

*Recommendation: Impacts due to Associated Infrastructure*

The EIS should address at a general, landscape level the potential impacts due to the associated infrastructure required for the development of renewable energy projects. Activities that may cause direct and indirect impacts include installing and maintaining solar collector arrays, wind turbines, or geothermal wells; building access roads; constructing transmission lines; and pumping groundwater. The indirect and cumulative effects of these infrastructure changes should be identified. The EIS is the appropriate stage to identify landscape-level mitigation measures to minimize unacceptable impacts to sensitive resources in the surrounding landscape. The EIS should also address how impacts will be assessed and mitigated at the project-level.

*C. Coordinated Planning & Processing of Subsequent Renewable Energy Project Applications*

*Recommendation: Environmental Review Process*

The EIS should describe: 1) how and if the EIS will serve as a “tiering” document for subsequent, site-specific NEPA analysis prepared for specific project applications; 2) the factors used to determine when a subsequent EIS is required; and 3) the factors used to determine when an Environmental Assessment (EA) is required. The environmental review process should be explained in detail. This will ensure that the appropriate environmental review, permitting, or compliance measures will be identified, defined, and implemented during each phase of the project.

*Recommendation: Applicable Federal Laws/Permits*

The EIS should describe the permitting requirements from a national perspective in terms of compliance with federal regulations such as the Clean Air Act (CAA), Clean Water Act (CWA), Endangered Species Act (ESA), Migratory Bird Treaty Act, National Historic Preservation Act, and NEPA. The process should be clearly defined and include all permits and approvals that may be required, their sequence, and the interrelationships between them.

*Recommendation: State Requirements/Plans*

The EIS should provide comprehensive information on state regulatory requirements and permits necessary to develop geothermal, solar, and wind resources within California including:

- 1) a comprehensive summary of applicable regulations, including local laws;
- 2) a list of permits that may be required; and
- 3) flow-charts illustrating the steps required to obtain the necessary permits to comply with environmental regulations within each of the states.

*Recommendation: Procedures to Amend or Revise Land Use Management Plans*

The EIS should contain references and descriptions of land use plans and resource management plans associated with areas that have been identified as premium geothermal, solar, or wind resource areas. The EIS should discuss how the proposed action would support or conflict with the objectives of federal, state, tribal, or local land use plans, policies and controls in the selected areas. The term “land use plans” includes all types of formally adopted documents for land use planning, conservation, zoning and related regulatory requirements. Proposed plans not yet developed should also be addressed if they have been formally proposed by the appropriate government body in written form (CEQ’s Forty Questions, #23b). The EIS should describe the procedures necessary to amend or revise these plans, as necessary to allow for solar, geothermal, or wind resource development.

*Recommendation: Categorical Exclusions*

The EIS should describe categorical exclusions that might be applicable to particular resource areas, if any.

*Recommendation: Potential Use Conflicts*

The EIS should outline special procedures used to evaluate potential conflicts of use in areas that are located in close proximity to National Parks, National Monuments, or in areas with high recreational use. The EIS should provide direction on how to balance competing demands for uses.

*D. Regulatory Context*

*Recommendation: Renewable Energy Policy and Energy Legislation*

The EIS should summarize current and past legislation regarding the development of renewable resources in the United States, including the Energy Policy Act of 2005,

Executive Order 13212, and the American Recovery and Reinvestment Act (ARRA) of 2009. The provisions in the Energy Policy Act of 2005 and the ARRA of 2009 that are designed to promote the development of renewable resources should be summarized.

*Recommendation: Renewable Portfolio Standards*

The EIS should summarize the Renewable Portfolio Standards (RPS) program goals for California and any other state(s) where the electricity may be sold. An RPS is a state policy that either mandates or encourages electricity retailers to provide a specific amount of electricity from renewable energy sources, which may include solar resources.

*Recommendation: Power Sales Agreements*

Any signed power sales agreements that are associated with federal, state, or private lands that are located in the vicinity of an identified geothermal, solar, or wind development area should be disclosed in the EIS as part of the cumulative impacts analysis.

E. *Right-of-Way (ROW) Stipulations*

*Recommendation: Retain Flexibility to Provide Additional Resource Protection*

Standard ROW authorizations should contain appropriate stipulations relating to all aspects of project development, including, but not limited to road construction and maintenance, vegetation removal, natural, cultural and biological resources mitigation and monitoring, and site reclamation. Standard ROW stipulations may not provide adequate resource protection, especially in areas where little resource data currently exist. In the instance that important resources are discovered, EPA recommends that BLM retain the flexibility to require appropriate mitigation measures to adequately protect resources.

*Recommendation: Proposed Activities Subject to NEPA*

EPA recommends the EIS provide detailed information on ROW authorizations and that ROW grants acknowledge that any proposed activity is subject to NEPA.

*Recommendation: Spill Prevention, Planning, and Cleanup*

EPA recommends that the EIS address the issue of spill prevention, planning, and clean up. This topic could be incorporated in ROW authorization stipulations that would apply to all lands subject to development. This stipulation would name the grantee as the responsible party for any discharge of hazardous substances that may occur during operations and would commit the grantee to specified spill prevention techniques to be outlined by the BLM.

F. *Siting of Renewable Energy on Disturbed or Contaminated Land*

EPA has worked closely with the Department of Energy's (DOE) National Renewable Energy Laboratory (NREL) to develop maps<sup>1</sup> showing contaminated lands and mining sites with

---

<sup>1</sup> To develop the maps, EPA and NREL collected renewable energy resource information and merged it with EPA

renewable energy generation potential. These maps were developed in conjunction with the *RE-Powering America's Land: Renewable Energy on Contaminated Land and Mining Sites* program,<sup>2</sup> which was launched by the EPA Office of Solid Waste and Emergency Response (OSWER) in September 2008. Under this initiative, EPA is taking a multi-pronged approach<sup>3</sup> to encouraging reuse of EPA tracked lands<sup>4</sup> into clean and renewable energy production facilities. EPA has developed a Renewable Energy Interactive Mapping Tool<sup>5</sup> that utilizes Google Earth to display these sites. We estimate that there are approximately 480,000 disturbed and contaminated sites and almost 15 million acres of potentially contaminated properties across the United States. Many of the contaminated properties are suitable for renewable energy development and have existing transmission capacity and infrastructure in place, as well as adequate zoning.

*Recommendations:*

The EIS should describe the current condition of the WCM REEA, discuss whether any of this land is classified as disturbed, and describe to what extent the land could be used for other purposes.

EPA recommends that BLM utilize the Renewable Energy Interactive Mapping Tool to explore whether there are disturbed sites located in the WCM REEA or within proximity to the WCM REEA that might also be appropriate for renewable energy development. Some types of technology can be subdivided in different areas and the availability of disturbed land nearby, either in combination with areas identified in the WCM REEA or separately, might provide a more attractive option for large-scale development of renewable energy.

EPA encourages BLM and other interested parties to pursue the siting of renewable energy projects on disturbed, degraded, and contaminated sites, before considering large tracts of undisturbed public lands. To that end, we note that the BLM Arizona State Office recently issued a Notice of Intent (NOI)<sup>6</sup> to prepare an EIS for the Arizona Restoration Design Energy Project,<sup>7</sup> funded under the Department of Interior's American Recovery and Reinvestment Act (ARRA) of 2009. Implementation of this initiative will result in the identification of disturbed or previously developed sites within the National System of Public Lands in Arizona that, after remediation or site preparation, can be made available for renewable energy development or generation.

---

and state data on contaminated lands and mining sites across the country. The mapping analysis applied basic screening criteria, such as distance to electric transmission lines, distance to roads, renewable energy potential, and site acreage in order to identify EPA tracked lands that might be good candidates for solar, wind, or biomass energy production facilities.

<sup>2</sup> For additional information on EPA's RE-Powering America's Land, please use the following weblink: <http://www.epa.gov/renewableenergyland/index.htm>

<sup>3</sup> See Internet site: [http://www.epa.gov/renewableenergyland/docs/repower\\_contaminated\\_land\\_factsheet.pdf](http://www.epa.gov/renewableenergyland/docs/repower_contaminated_land_factsheet.pdf)

<sup>4</sup> EPA tracks abandoned mine lands, Brownfields, Resource Conservation and Recovery Act (RCRA) sites, Federal Superfund Sites, and Non-Federal Superfund Sites.

<sup>5</sup> See Internet site: [http://www.epa.gov/renewableenergyland/mapping\\_tool.htm](http://www.epa.gov/renewableenergyland/mapping_tool.htm). Open the Renewable Energy Interactive Map (KMZ) to launch the Renewable Energy Mapping Tool. More detailed information on the EPA tracked sites is available at: [http://epa.gov/renewableenergyland/maps/ocpa\\_renewable\\_energy\\_data.xls](http://epa.gov/renewableenergyland/maps/ocpa_renewable_energy_data.xls).

<sup>6</sup> See Internet site: <http://edocket.access.gpo.gov/2010/pdf/2010-404.pdf>

<sup>7</sup> See Internet site: [http://www.blm.gov/az/st/en/prog/energy/arra\\_solar.html](http://www.blm.gov/az/st/en/prog/energy/arra_solar.html)



## **II. Recommendations pertaining to NEPA/Renewable Energy Projects**

### Statement of Purpose and Need

The EIS should clearly identify the underlying purpose and need to which BLM is responding in proposing the alternatives (40 CFR 1502.13). The *purpose* of the proposed action is typically the specific objectives of the activity, while the *need* for the proposed action may be to eliminate a broader underlying problem or take advantage of an opportunity.

#### *Recommendation:*

The purpose and need should be a clear, objective statement of the rationale for the proposed project. The EIS should discuss the proposed project in the context of the larger energy market that this project(s) would serve; identify potential purchasers of the power produced; and discuss how the project will assist the state in meeting its Renewable Portfolio Standards and goals.

### Alternatives Analysis

NEPA requires evaluation of reasonable alternatives, including those that may not be within the jurisdiction of the lead agency (40 CFR Section 1502.14(c)). A robust range of alternatives will include options for avoiding significant environmental impacts. The EIS should provide a clear discussion of the reasons for the elimination of alternatives which are not evaluated in detail. Reasonable alternatives should include, but are not necessarily limited to, alternative sites, capacities, and technologies as well as alternatives that identify environmentally sensitive areas or areas with potential use conflicts. The alternatives analysis should describe the approach used to identify environmentally sensitive areas and describe the process that was used to designate them in terms of sensitivity (low, medium, and high). The alternatives analysis should identify and analyze an environmentally preferable alternative.

The environmental impacts of the proposal and alternatives should be presented in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public (40 CFR 1502.14). The potential environmental impacts of each alternative should be quantified to the greatest extent possible (e.g., acres of wetlands impacted, tons per year of emissions produced, etc.).

#### *Recommendations:*

The EIS should describe how each alternative was developed, how it addresses each project objective, and how it will be implemented. The EIS should clearly describe the rationale used to determine whether impacts of an alternative are significant or not. Thresholds of significance should be determined by considering the context and intensity of an action and its effects (40 CFR 1508.27).

The alternatives analysis should include a discussion of alternative sites, capacities, and generating technologies relevant to the development of geothermal, solar and wind

resources in the WCM REEA. The EIS should describe the benefits and disadvantages associated with each of the proposed technologies.

EPA recommends that BLM establish a wide range of alternatives, including the consideration of an environmentally preferred alternative.

### Biological Resources and Habitat

The EIS should identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the project area. The document should identify and quantify which species or critical habitat might be directly, indirectly, or cumulatively affected by each alternative and mitigate impacts to these species. Emphasis should be placed on the protection and recovery of species due to their status or potential status under the Endangered Species Act (ESA). We recommend that BLM consult with the U.S. Fish and Wildlife Service and prepare a Biological Opinion under Section 7 of the ESA if there are threatened or endangered species present. The EIS should provide a recent status update of this report if this action has been or will be undertaken. Analysis of impacts and mitigation on covered species should include:

- Baseline conditions of habitats and populations of the covered species;
- A clear description of how avoidance, mitigation and conservation measures will protect and encourage the recovery of the covered species and their habitats in the project area;
- Monitoring, reporting and adaptive management efforts to ensure species and habitat conservation effectiveness.

EPA is also concerned about the potential impact of construction, installation, operation, and maintenance activities (deep trenching, grading, filling, and fencing) on habitat. The EIS should describe the extent of these activities and the associated impacts on habitat and threatened and endangered species. We encourage habitat conservation alternatives that avoid and protect high value habitat and create or preserve linkages between habitat areas to better conserve the covered species. EPA is also concerned about the potential for adverse impacts to native vegetation and/or animal species due to increased shade from solar collectors (heliostats, photovoltaic systems, parabolic troughs) after installation is complete.

#### *Recommendations:*

The EIS should indicate what measures will be taken to protect important wildlife habitat areas from potential adverse effects of proposed covered activities and to ensure that desert areas are minimally impacted. We encourage BLM to maximize options to protect habitat and minimize habitat loss and habitat fragmentation.

The BLM should discuss the impacts associated with constructing fences around the project site(s), and consider whether there are options that could facilitate better protection of covered species.

The EIS should discuss the impacts associated with an increase of shade in the desert environment on vegetation and/or species.

The EIS should discuss the potential impacts on avian species due to collisions with wind turbines, power tower and/or heliostats and whether there is potential for the concentrating solar rays to burn avian species in flight.

If the project includes evaporation and/or storm water ponds, potential hazards and impacts to humans and wildlife, especially birds, should be discussed.

*Recommendation:*

Explain whether any ponded water or bioremediation area associated with the project has the potential to attract wildlife, particularly migratory waterfowl. If there is potential for exposure of wildlife to contaminants in these waters, identify mitigation measures to avoid such impacts.

## Water Resources

### *Water Supply and Water Quality*

The EIS should estimate the quantity of water the project(s) will require and describe the source of this water and potential effects on other water users and natural resources in the project's area of influence. The EIS should clearly describe existing groundwater conditions, potential cumulative impacts to groundwater quantity and quality, and avoidance measures to prevent impacts. The EIS should clearly depict reasonably foreseeable direct, indirect, and cumulative impacts to groundwater and surface water resources, including depletion of these resources. For groundwater, the potentially-affected groundwater basin should be identified and any potential for subsidence and impacts to springs or other open water bodies and biologic resources should be analyzed. The EIS should include:

- A discussion of the amount of water needed for the development of geothermal, solar, and wind resources, where this water will be obtained, and the amount and source of power that would be needed to move the water to and through the facility;
- A discussion of availability of groundwater within the basin and annual recharge rates;
- A description of the water rights permitting process and the status of water rights within that basin, including an analysis of whether water rights have been over-allocated;
- A description of any water right permits that contain special conditions; measures to mitigate direct, indirect, and cumulative impacts; and provisions for monitoring and adaptive management;
- A detailed discussion of cumulative impacts to groundwater supply within the hydrographic basin(s) that would support the alternatives, including impacts from other geothermal or large-scale solar installations that have also been proposed;
- An analysis of different types of technology that can be used to minimize water use for the geothermal or solar power plant;

- A discussion of whether it would be feasible to use other sources of water, including wastewater or deep-aquifer water, as cooling water for the proposed geothermal or solar thermal power plant;
- A discussion of whether it is possible to recycle the water that would be sent to the evaporation pond (if wet cooling is utilized) and re-inject or reuse this water; and
- An analysis of the potential for alternatives to cause adverse aquatic impacts such as impacts to water quality and aquatic habitats.

Large-scale solar installations that utilize wet-cooling may require significant water resources. Solar installations that utilize dry-cooling require much less water—up to 90 percent less. We recognize that wet cooling technology has performance advantages over dry cooling, especially in arid regions, and may be less expensive; however, due to the general scarcity of water in the region, the large number of solar project applications submitted to BLM, and the ever-increasing demand for this commodity, EPA is concerned about the depletion of this resource, particularly in desert regions.

*Recommendation:*

EPA recommends that the EIS discuss the water demands of various solar technologies, including wet cooling and dry cooling systems. We also recommend that BLM consider utilization of technologies that will minimize water use and the implementation of conservation measures that will reduce water demands.

EPA encourages BLM to include in the EIS a description of all water conservation measures that will be implemented to reduce water demands. Project designs should maximize conservation measures such as appropriate use of recycled water for landscaping and industry, xeric landscaping, and water conservation education. Water saving strategies can be found in the EPA's publications *Protecting Water Resources with Smart Growth* at [www.epa.gov/piedpage/pdf/waterresources\\_with\\_sg.pdf](http://www.epa.gov/piedpage/pdf/waterresources_with_sg.pdf), and *USEPA Water Conservation Guidelines* at [www.epa.gov/watersense/docs/app\\_a508.pdf](http://www.epa.gov/watersense/docs/app_a508.pdf).

In addition, the EIS should describe water reliability for the proposed project and clarify how existing and/or proposed sources will be affected by climate change. At a minimum, EPA expects a qualitative discussion of impacts of climate change to water supply, and the adaptability of the project to these changes.

*Disposal of Discharges*

The EIS should address the potential effects of project discharges, if any, on surface and groundwater quality. Discharges may include, but are not limited to, thermal changes, suspended solids, toxicity, metals, oil and grease, chlorine, salinity, and pH. At the project level, the specific discharges should be identified and potential effects of discharges on designated beneficial uses of affected waters should be analyzed. The EIS should note that a National Pollutant Discharge Elimination System (NPDES) permit would be required for discharges to waters of the United States. The disposal of wastewater or other fluids into the subsurface is subject to the requirements of the Underground Injection Control Program, pursuant to the Safe

Drinking Water Act. Permits may or may not be required, depending on project specifications and federal and/or state requirements. In addition, BLM and state well construction requirements are required to ensure that groundwater is protected. The subsequent EISs/EAs should address how the proposed project would be designed and operated to ensure that the facility meets federal and state water quality standards that provide for the protection and maintenance of beneficial uses downstream from the facility.

If the facility is a zero discharge facility, the EIS should disclose the amount of process water that would be disposed of onsite and explain methods of onsite containment. If evaporation ponds will be used for disposal of geothermal effluents, condensate or other process water, identify chemical characteristics of the pond water and how seepage into groundwater will be prevented. Identify the storm design containment capacity of ponds, explain how overflow in larger storm events will be managed, and discuss potential environmental impacts (drainage channels affected, water quality, biological resources) in the event of overflow.

#### *Clean Water Act Section 404*

The project applicant should coordinate with the U.S. Army Corps of Engineers (Corps) to determine if the proposed project requires a Section 404 permit under the Clean Water Act (CWA). Section 404 regulates the discharge of dredged or fill material into waters of the United States (WOUS), including wetlands and other *special aquatic sites*. The EIS should describe all WOUS that could be affected by the project alternatives, and include maps that clearly identify all waters within the project area. The discussion should include acreages and channel lengths, habitat types, values, and functions of these waters. In addition, EPA suggests that BLM include a jurisdictional delineation for all WOUS, including ephemeral drainages, in accordance with the 1987 *Corps of Engineers Wetlands Delineation Manual* and the December 2006 *Arid West Region Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. A jurisdictional delineation will confirm the presence of WOUS in the project area and help determine impact avoidance or if state and federal permits would be required for activities that affect WOUS.

If a permit is required, EPA will review the project for compliance with *Federal Guidelines for Specification of Disposal Sites for Dredged or Fill Materials* (40 CFR 230), promulgated pursuant to Section 404(b)(1) of the CWA (“404(b)(1) Guidelines”). Pursuant to 40 CFR 230, any permitted discharge into WOUS must be the least environmentally damaging practicable alternative (LEDPA) available to achieve the project purpose. The EIS should include an evaluation of the project alternatives in this context in order to demonstrate the project’s compliance with the 404(b)(1) Guidelines.

If a discharge to WOUS is anticipated, the EIS should discuss alternatives to avoid these discharges and how potential impacts would be minimized and mitigated. This discussion should include: (a) acreage and habitat type of WOUS that would be created or restored; (b) water sources to maintain the mitigation area; (c) revegetation plans, including the numbers and age of each species to be planted, as well as special techniques that may be necessary for planting; (d) maintenance and monitoring plans, including performance standards to determine



mitigation success; (e) the size and location of mitigation zones; (f) the parties that would be ultimately responsible for the plan's success; and (g) contingency plans that would be enacted if the original plan fails. Mitigation should be implemented in advance of the impacts to avoid habitat losses due to the lag time between the occurrence of the impact and successful mitigation.

The EIS should describe the original (natural) drainage patterns in the project locale, as well as the drainage patterns of the area during project operations, and identify whether any components of the proposed project are within a 50 or 100-year floodplain. We also recommend the EIS include information on the functions and locations of WOUS, as well as ephemeral washes in the project area, because of the important hydrologic and biogeochemical role these washes play in direct relationship to higher-order waters downstream.

#### *Clean Water Act Section 303(d)*

The CWA requires States to develop a list of impaired waters that do not meet water quality standards, establish priority rankings, and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality.

##### *Recommendation:*

The EIS should provide information on CWA Section 303(d) impaired waters in the project area, if any, and efforts to develop and revise TMDLs. The EIS should describe existing restoration and enhancement efforts for those waters, how the proposed project will coordinate with on-going protection efforts, and any mitigation measures that will be implemented to avoid further degradation of impaired waters.

#### Indirect and Cumulative Impacts

The cumulative impacts analysis should provide the context for understanding the magnitude of the impacts of the alternatives by analyzing the impacts of other past, present, and reasonably foreseeable projects or actions and then considering those cumulative impacts in their entirety (CEQ's Forty Questions, #18). The EIS should clearly identify the resources that may be cumulatively impacted, the time over which impacts are going to occur, and the geographic area that will be impacted by the proposed project. The EIS should focus on resources of concern – those resources that are “at risk” and/or are significantly impacted by the proposed project, before mitigation. In the introduction to the *Cumulative Impacts Section*, identify which resources are analyzed, which ones are not, and why. For each resource analyzed, the EIS should:

- Identify the current condition of the resource as a measure of past impacts. For example, the percentage of species habitat lost to date.
- Identify the trend in the condition of the resource as a measure of present impacts. For example, the health of the resource is improving, declining, or in stasis.
- Identify all on-going, planned, and reasonably foreseeable projects in the study area that may contribute to cumulative impacts.
- Identify the future condition of the resource based on an analysis of impacts from reasonably

foreseeable projects or actions added to existing conditions and current trends.

- Assess the cumulative impacts contribution of the proposed alternatives to the long-term health of the resource, and provide a specific measure for the projected impact from the proposed alternatives.
- Disclose the parties that would be responsible for avoiding, minimizing, and mitigating those adverse impacts.
- Identify opportunities to avoid and minimize impacts, including working with other entities.

A *Reasonably Foreseeable Development (RFD) Scenario* has been used as the basis for analyzing environmental impacts resulting from future leasing and development of federal geothermal resources within specific areas. The level and type of development anticipated in the RFD scenario is a best professional estimate of what may occur if these areas are leased and is usually not intended to be a “maximum development” scenario; however, it is frequently biased towards the higher end of expected development. At this stage, it is not known whether the EIS will utilize the RFD Scenario to describe the development potential within the identified areas. EPA is concerned that the RFD scenario, if utilized, could underestimate the geothermal generation capacity and development potential within specific areas; consequently, the environmental impacts associated with the future development of the geothermal resources may be minimized within the EIS or subsequent EIS/EA.

*Recommendations:*

If the RFD Scenario is used as a basis for analyzing environmental impacts, the EIS should describe the actions that BLM will take should the RFD scenario underestimate the geothermal capacity within a specific area. The EIS should describe how BLM will quantify and evaluate environmental impacts if this occurs.

The potential environmental impacts associated with multiple geothermal development projects should be included as part of the *Cumulative Impacts* analysis. This is critical not only in terms of potential impacts on the environment, but also in terms of potential impacts on the viability of the geothermal resources.

EPA recommends that BLM examine the Cumulative Impact Guidance ([http://www.dot.ca.gov/ser/cumulative\\_guidance/purpose.htm](http://www.dot.ca.gov/ser/cumulative_guidance/purpose.htm)) prepared by the California Department of Transportation (Caltrans), the Federal Highway Administration (California Division), and EPA Region 9. Agencies can use the principles and 8-step process described in this document as a systematic way to analyze cumulative impacts for their projects.

The BLM has received more than 300 applications for solar and wind projects in the desert southwest. The BLM and DOE are preparing a Programmatic EIS to explain how they will address existing and future solar energy development applications on BLM-administered lands in six Western states. EPA is concerned about the cumulative impacts associated with the development of multiple large-scale solar projects in the desert region.

*Recommendations:*

The EIS should identify whether the proposed project is located within one of the solar energy study areas or in close proximity to one.

The EIS should consider the cumulative impacts associated with multiple large-scale solar projects proposed in the desert southwest and the potential impacts on various resources including: water supply, endangered species, and habitat.

As an indirect result of providing additional power, it can be anticipated that this project will allow for development and population growth to occur in those areas that receive the generated electricity.

*Recommendations:*

The EIS should describe the reasonably foreseeable future land use and associated impacts that will result from the additional power supply. The document should provide an estimate of the amount of growth, likely location, and the biological and environmental resources at risk.

The EIS should consider the direct and indirect effects of the inter-connecting transmission line for the proposed project, as well as the cumulative effects associated with the transmission needs of other reasonably foreseeable projects.

Implementation of Adaptive Management Techniques for Mitigation Measures

Adaptive management is an iterative process that requires selecting and implementing management actions, monitoring, comparing results with management and project objectives, and using feedback to make future management decisions. The process recognizes the importance of continually improving management techniques through flexibility and adaptation instead of adhering rigidly to a standard set of management actions. Although adaptive management is not a new concept, it may be relatively new in its application to specific projects. The effectiveness of adaptive management monitoring depends on a variety of factors including:

- a) The ability to establish clear monitoring objectives;
- b) Agreement on the impact thresholds being monitored;
- c) The existence of a baseline or the ability to develop a baseline for the resources being monitored;
- d) The ability to see the effects within an appropriate time frame after the action is taken;
- e) The technical capabilities of the procedures and equipment used to identify and measure changes in the affected resources and the ability to analyze the changes;
- f) The resources needed to perform the monitoring and respond to the results.

*Recommendation:*

EPA recommends that BLM consider adopting a formal adaptive management plan to evaluate and monitor impacted resources and ensure the successful implementation of

mitigation measures. EPA recommends that BLM review the specific discussion on Adaptive Management in the NEPA Task Force Report to the Council on Environmental Quality (CEQ) on *Modernizing NEPA*.

### Invasive Species

Executive Order 13112, *Invasive Species* (February 3, 1999), mandates that federal agencies take actions to prevent the introduction of invasive species, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause. Executive Order 13112 also calls for the restoration of native plants and tree species. If the proposed project will entail new landscaping, the EIS should describe how the project will meet the requirements of Executive Order 13112.

#### *Recommendation:*

The EIS should include an invasive plant management plan to monitor and control noxious weeds.

### Seismic Risk

Geothermal development and production and injection operations can cause increased seismicity (earthquake activity) in tectonically active zones. Usually the magnitude of the increased activity is low, ranging from 1 - 3 on the Richter Scale.

#### *Recommendation:*

The EIS should discuss the potential for seismic risk and discuss how this risk will be evaluated, monitored, and managed.

### Climate Change

Scientific evidence supports the concern that continued increases in greenhouse gas emissions resulting from human activities will contribute to climate change. Global warming is caused by emissions of carbon dioxide and other heat-trapping gases. Global warming can affect weather patterns, sea level, ocean acidification, chemical reaction rates, and precipitation rates, resulting in climate change. Reports also indicate that deserts may store as much carbon as temperate forests.

#### *Recommendations:*

The EIS should consider how climate change could potentially influence the proposed project, specifically within sensitive areas, and assess how the projected impacts could be exacerbated by climate change.

The EIS should consider the cumulative impacts associated with multiple large-scale geothermal, solar, and wind projects proposed in the desert southwest and clarify how existing and/or proposed resources will be affected by climate change.

The EIS should quantify and disclose the anticipated climate change *benefits* of geothermal, solar, and wind energy. We suggest quantifying greenhouse gas emissions from different types of generating facilities including solar, geothermal, natural gas, coal-burning, and nuclear and compiling and comparing these values.

The EIS should discuss whether the trenching, grading, and filling associated with the construction of renewable energy projects will affect the deserts ability to store carbon, and to what degree this may occur.

### Air Quality

The EIS should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS), criteria pollutant nonattainment areas, and potential air quality impacts of the proposed project (including cumulative and indirect impacts). Such an evaluation is necessary to assure compliance with State and Federal air quality regulations, and to disclose the potential impacts from temporary or cumulative degradation of air quality.

The EIS should describe and estimate air emissions from the proposed power plant, including potential construction and maintenance activities, as well as proposed mitigation measures to minimize those emissions. EPA recommends an evaluation of the following measures to reduce emissions of criteria air pollutants and hazardous air pollutants (air toxics).

#### *Recommendations:*

- *Existing Conditions* – The EIS should provide a detailed discussion of ambient air conditions, NAAQS, and criteria pollutant nonattainment areas in all areas considered for renewable energy development. The EIS should identify relevant local and state requirements and ensure all sources meet these requirements.
- *Quantify Emissions* – The EIS should estimate emissions of criteria pollutants from the proposed project and discuss the timeframe for release of these emissions over the lifespan of the project. The EIS should describe and estimate emissions from potential construction activities, as well as proposed mitigation measures to minimize these emissions.
- *Specify Emission Sources* – The EIS should specify the emission sources by pollutant from mobile sources, stationary sources, and ground disturbance. This source specific information should be used to identify appropriate mitigation measures and areas in need of the greatest attention.
- *Equipment Emissions Mitigation Plan (EEMP)* – The EIS should identify the need for an EEMP. An EEMP will identify actions to reduce diesel particulate, carbon monoxide, hydrocarbons, and NO<sub>x</sub> associated with construction activities. We recommend that the EEMP require that all construction-related engines:



- are tuned to the engine manufacturer's specification in accordance with an appropriate time frame;
  - do not idle for more than five minutes (unless, in the case of certain drilling engines, it is necessary for the operating scope);
  - include all available mitigation measures to reduce greenhouse gas emissions;
  - are not tampered with in order to increase engine horsepower;
  - include diesel particulate filters, oxidation catalysts and other suitable control devices on all construction equipment used at the project site;
  - use diesel fuel having a sulfur content of 15 parts per million or less, or other alternative diesel fuel, unless such fuel cannot be reasonably procured in the market area; and
  - include control devices to reduce air emissions. The determination of which equipment is suitable for control devices should be made by an independent Licensed Mechanical Engineer. Equipment suitable for control devices may include drilling equipment, generators, compressors, graders, bulldozers, and dump trucks.
- *Fugitive Dust Control Plan* - The EIS should identify the need for *Fugitive Dust Control Plan*. We recommend that it include these general recommendations:
    - Stabilize open storage piles and by covering and/or applying water or chemical/organic dust palliative where appropriate. This applies to both inactive and active sites, during workdays, weekends, holidays, and windy conditions.
    - Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions; and
    - When hauling material and operating non-earthmoving equipment, prevent spillage and limit speeds to 15 miles per hour (mph). Limit speed of earth-moving equipment to 10 mph.

### *General Conformity*

The EIS should address the applicability of CAA Section 176 and EPA's general conformity regulations at 40 CFR Parts 51 and 93. Federal agencies need to ensure that their actions, including construction emissions subject to state jurisdiction, conform to an approved implementation plan. Emissions authorized by a CAA permit issued by the State or the local air pollution control district would not be assessed under general conformity but through the permitting process.

#### *Recommendation:*

Cumulative impacts to air quality should be analyzed given the potential air quality impacts from construction activities.

### *New Source Review (NSR) Construction Permit Program*

New major stationary sources of air pollution and major modifications to existing sources are required by the CAA to obtain an air pollution permit before commencing construction. This process is called new source review (NSR) and is required whether the major source or modification is planned for an area where the NAAQS are exceeded (nonattainment areas) or an area where air quality is acceptable (attainment and unclassifiable areas). Permits for sources in attainment areas are referred to as Prevention of Significant Deterioration (PSD) permits, while permits for sources located in nonattainment areas are referred to as nonattainment (NAA) NSR permits. The entire program, including both PSD and NAA permitting, is referred to as the NSR program and is established in Parts C and D of Title I of the CAA. Based upon an area's attainment/nonattainment designations and a proposed project's anticipated criteria pollutant emission rates, a project may require both a PSD and NAA permit.

#### *Recommendation:*

The EIS should discuss if NSR program permits will be required for any geothermal, solar, or wind power plants that may be constructed. If so, the EIS should describe the permitting process and the information that must be addressed in the permits.

### Coordination with Tribal Governments

Executive Order 13175, *Consultation and Coordination with Indian Tribal Governments* (November 6, 2000), was issued in order to establish regular and meaningful consultation and collaboration with tribal officials in the development of federal policies that have tribal implications, and to strengthen the United States government-to-government relationships with Indian tribes.

#### *Recommendation:*

The EIS should describe the process and outcome of government-to-government consultation between BLM and each of the tribal governments within the project area, issues that were raised (if any), and how those issues were addressed in the selection of the proposed alternative.

### *National Historic Preservation Act and Executive Order 13007*

Consultation for tribal cultural resources is required under Section 106 of the National Historic Preservation Act (NHPA). Historic properties under the National Historic Preservation Act (NHPA) are properties that are included in the National Register of Historic Places (NRHP) or that meet the criteria for the National Register. Section 106 of the NHPA requires a federal agency, upon determining that activities under its control could affect historic properties, consult with the appropriate State Historic Preservation Officer/Tribal Historic Preservation Officer (SHPO/THPO). Under NEPA, any impacts to tribal, cultural, or other treaty resources must be discussed and mitigated. Section 106 of the NHPA requires that Federal agencies consider the effects of their actions on cultural resources, following regulation in 36 CFR 800.

Executive Order 13007, *Indian Sacred Sites* (May 24, 1996), requires federal land managing agencies to accommodate access to, and ceremonial use of, Indian sacred sites by Indian Religious practitioners, and to avoid adversely affecting the physical integrity, accessibility, or use of sacred sites. It is important to note that a sacred site may not meet the National Register criteria for a historic property and that, conversely, a historic property may not meet the criteria for a sacred site.

*Recommendation:*

The EIS should address the existence of Indian sacred sites in the project areas. It should address Executive Order 13007, distinguish it from Section 106 of the NHPA, and discuss how BLM will avoid adversely affecting the physical integrity, accessibility, or use of sacred sites, if they exist. The EIS should provide a summary of all coordination with Tribes and with the SHPO/THPO, including identification of NRHP eligible sites, and development of a Cultural Resource Management Plan.

Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994), directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations, allowing those populations a meaningful opportunity to participate in the decision-making process. Guidance<sup>8</sup> by CEQ clarifies the terms low-income and minority population (which includes American Indians) and describes the factors to consider when evaluating disproportionately high and adverse human health effects.

*Recommendation:*

The EIS should include an evaluation of environmental justice populations within the geographic scope of the project. If such populations exist, the EIS should address the potential for disproportionate adverse impacts to minority and low-income populations, and the approaches used to foster public participation by these populations. Assessment of the project's impact on minority and low-income populations should reflect coordination with those affected populations.

Hazardous Materials/Hazardous Waste/Solid Waste

The EIS should address potential direct, indirect and cumulative impacts of hazardous waste from construction and operation of the proposed project. The document should identify projected hazardous waste types and volumes, and expected storage, disposal, and management plans. It should address the applicability of state and federal hazardous waste requirements. Appropriate mitigation should be evaluated, including measures to minimize the generation of hazardous waste (i.e., hazardous waste minimization). Alternate industrial processes using less

---

<sup>8</sup>Environmental Justice Guidance under the National Environmental Policy Act, Appendix A (Guidance for Federal Agencies on Key Terms in Executive Order 12898), CEQ, December 10, 1997.

toxic materials should be evaluated as mitigation. This potentially reduces the volume or toxicity of hazardous materials requiring management and disposal as hazardous waste.

#### *Formerly Used Defense Sites*

If there are any inactive Formerly Used Defense Sites (FUDS) located on the federal lands that have been earmarked for geothermal, solar, or wind development, these sites should be identified. Inactive FUDS could present a public danger from unexploded ordnance and this could affect parties involved with construction or recreation. The EIS should identify which agency is responsible for ensuring that these hazards have been evaluated and eliminated and describe what measures BLM will implement to ensure that FUDS no longer represent a public danger to anyone accessing these lands.

#### *Evaporation Ponds*

Should the proposed project utilize evaporation ponds, the EIS should describe the concentrated, dewatered solid waste associated with the evaporation pond(s) and describe whether this waste product will be transported off site for disposal.

#### *Life Cycle Analysis/Recycling*

Production can and should address the full product life cycle, from raw material sourcing through end of life collection and reuse or recycling. Companies can minimize their environmental impacts during raw material extraction, and facilitate future material recovery for reuse or recycling. Solar, wind, and geothermal companies can facilitate collection and recycling through buy-back programs or collection and recycling guarantees.

#### *Recommendation:*

EPA recommends that the proponent strive to address the full product life cycle by sourcing power tower components from a company that: 1) minimizes environmental impacts during raw material extraction; 2) manufactures components in a zero waste facility; and 3) provides future component disassembly for material recovery for reuse and recycling.

#### Impacts on Off-Highway Vehicles and Recreational Use

BLM is entrusted with the multiple-use management of natural resources on public land, and that public land must be managed for outdoor recreation and natural, scenic, scientific, and historical values. The development of solar resources could restrict or reduce the opportunities for recreational use, including off-highway vehicles (OHV) that may access areas that may have been designated as open for recreational use. Alternatives requesting compensation for impacted recreation lands may or may not be considered because of feasibility and cost. In many cases, OHV use is generally not confined to trails, but tends to be unrestricted.

*Recommendations:*

EPA recommends that the EIS describe BLM's overall guidance for addressing OHV management in the areas identified for renewable energy development and specifically how that guidance will be modified, should geothermal, solar or wind projects be approved.

The EIS should outline procedures used to evaluate conflicts of use in areas with high recreational use. The EIS should provide direction on how to balance competing uses.

EPA recommends that BLM fully evaluate current and projected recreational use within the lands identified for geothermal, solar, or wind development. An accurate and complete route inventory will be necessary to complete this evaluation. Emissions from OHV use can be considered as cumulative impacts on air quality; consequently, the subsequent EIS/EA should describe and estimate emissions from OHV, as well as any mitigation measures to minimize these emissions.

EPA recommends that there be full disclosure of the impacts to recreational users in the lands identified for renewable energy development. Construction, operations, and maintenance will likely impact recreational users. We recommend that BLM provide information about costs associated with compensatory measures.

The EIS should clarify what general measures will be incorporated to ensure that OHV and other users are not injured due to hazards associated with exposed collectors, piping, and transmission lines. It would be reasonable to assume that OHV users do not always stay on designated trails or may not know which trails are in fact designated. Some precautions regarding safety should be implemented.





"Govea Maj Ernest"  
<ernest.govea@usmc.mil>  
03/18/2010 03:43 PM

To <John\_Dalton@ca.blm.gov>,  
<cawestchocolate@ca.blm.gov>,  
<Charmaine\_Christe@ca.blm.gov>  
cc "Christman CIV Patrick L" <patrick.christman@usmc.mil>,  
"Hamilton CIV Charles M" <charles.hamilton@usmc.mil>  
bcc  
Subject Scoping Comments for West Chocolate Mountains  
Renewable Energy Evaluation Area

John,

Per our conversation, attached is the Marine Corps' scoping comments for the West Chocolate Mountain Renewable Energy Evaluation Area. Additionally, I've attached a copy of the Headquarters, Marine Corps acceptance letter for cooperating agency status for this project (enclosure to scoping comments letter).

Thank you for inviting us to be a cooperating agency and I look forward to working with you on this project.

If you have any questions regarding this matter, please contact me directly.

Regards,  
Major Ernie Govea

Comm: (760) 725-2631  
DSN: 365-2631  
Cell: (949) 485-0254  
Marine Corps Installations-West (G-7)  
Reg Environ Coord Office & Govt and External Affairs Office

WARNING: This transmission, and attachments, contains information protected by the Privacy Act of 1974, certain Exemptions to the Freedom of Information Act or other applicable laws. It is FOR OFFICIAL USE ONLY by the intended recipient. Unauthorized release or disclosure of this information is prohibited. If you believe you are not the intended recipient of this transmission, contact or notify the sender immediately.



G-7 MCI-W Response Ltr BLM WCMREEA NOI 18 Mar 10.pdf CMC\_BLM Coop Agency Accept Ltr ISO WCMREEA 10 Mar 10.pdf



**UNITED STATES MARINE CORPS**  
MARINE CORPS INSTALLATIONS WEST  
WESTERN REGIONAL ENVIRONMENTAL COORDINATION OFFICE  
BOX 555246  
CAMP PENDLETON, CA 92055-5246

IN REPLY REFER TO:  
5090  
WREC/pc  
18 Mar 10

Mr. John Dalton  
Geothermal Project Manager  
California Desert District Office  
Bureau of Land Management  
22835 Calle San Juan de Los Lagos  
Moreno Valley, California 92553-9046

Dear Mr. Dalton:

SUBJECT: RESPONSE TO NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL  
IMPACT STATEMENT FOR THE PROPOSED WEST CHOCOLATE MOUNTAINS  
RENEWABLE ENERGY AREA, IMPERIAL COUNTY, CALIFORNIA AND  
CONSIDERATION OF AMMENDMENT TO THE CALIFORNIA DESERT  
CONSERVATION AREA

Marine Corps Installations-West received your letter dated 25 February, 2010, offering Marine Corps Installations-West (MCI-W) cooperating agency status on your Environmental Impact Statement (EIS) for the West Chocolate Mountains Renewable Energy (WCMRE) area project. The Marine Corps has accepted your invitation to be a cooperating agency and appreciates the opportunity to provide scoping comments under the National Environmental Policy Act (NEPA) on the Bureau of Land Management's (BLM) proposal to study the potential for renewable energy development in WCMRE area.

Marine Corps Installations-West is comprised of seven Marine Corps bases and stations in Southwestern United States. We provide the installation and training infrastructure to enable Marine Corps air and ground forces to develop and sustain operational readiness. Although we are committed to maximizing the use of renewable energy, our primary mission is to support training, sustaining, and deploying the warfighter. To prevent inadvertent impacts while simultaneously supporting alternative energy issues, we must work efficiently and effectively in partnership and coordination with your agency and others in our national pursuit of alternative energy.

While recognizing the importance of the study, MCI-W has concerns about the impact on our mission posed by potential geothermal, solar and wind energy projects in WCMRE area.



Recognizing that this is the initial step in a more thorough and detailed analysis of the proposed alternatives that will follow, a comprehensive list of military concerns is very difficult to identify at this time. However, our initial concerns are provided for your consideration in the following scoping comments:

a. Heights of renewable energy structures and the transmission lines which connect these sources to the grid pose potential aviation obstacles to Marine Corps low-level aircraft entering and exiting the range airspace and those transiting the area via military training routes and special use airspace in and around the Chocolate Mountains Aerial Gunnery Range (CMAGR). Specifically, if any structure is erected that has a vertical component in excess of 50 feet, its effect on training and safety will have to be determined. Additionally, if wires are strung between structures, at any elevation, safety of flight will have to be considered.

b. Renewable energy farms may also impact military ground activity on and around the CMAGR. Siting and density must not limit and/or significantly alter ground accessibility to the range for military readiness training.

c. Certain types of ambient lighting can cause problems for our pilots when they are using night vision goggles while conducting flight operations and training at night and create safety of flight concerns. The ambient lighting issues will need to be assessed independently as well as cumulatively.

d. The potential for ground and airborne radar interference from moving wind turbine blades (radar scattering due to Doppler propagation of turning blades) can interfere with training, testing, and may also cause a safety of flight issue. Specifically, false Doppler returns could generate processing issues for systems utilizing Doppler logic and will need to be thoroughly reviewed for potential interference in training. Additionally, if any structure is erected that produces or replicates significant radar cross section, it has the potential to cause undesirable affects to aircraft training on the range. Furthermore, any interference with ground weapons locating radars may cause indirect fire safety issues.

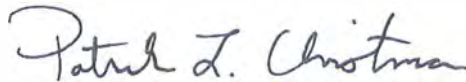
e. The radio-frequency (RF) spectrum will also require careful analysis. If any structure or device has potential to transmit RF energy, it could have an adverse affect on communications, radar reception/detection and possibly

illuminate Radar Homing and Warning Receivers (RHAW). Thus, any interference with command and control of military operations on the range is unacceptable as safety on the range will be compromised. RF interference with command and control of military operations will unnecessarily limit training and degrade military readiness.

f. Unintentional displacement of recreational users onto the CMAGR may occur as a result of construction of alternative energy development. By limiting or restricting access in and around alternative energy sites, recreational off highway vehicle traffic along the CMAGR border may unintentionally produce encroachment into restricted areas and create safety issues.

Again, thank you for the opportunity to participate in the scoping process and for the invitation to become a cooperating agency. We look forward to our partnership with the BLM on the Draft Environmental Impact Statement in support of the WCMRE area. Marine Corps Installations-West's point of contact is Major Ernie Govea, Regional Environmental Coordination Office, telephone (760) 725-2631, email: [ernest.govea@usmc.mil](mailto:ernest.govea@usmc.mil).

Sincerely,

A handwritten signature in dark ink, reading "Patrick L. Christman". The signature is written in a cursive, flowing style.

PATRICK L. CHRISTMAN  
Director, West Reg Environ Coord Off  
By direction of the Commanding General

Enclosure: HQMC Cooperating Agency Acceptance Letter



Gregory  
Miller/CASO/CA/BLM/DOI  
03/12/2010 01:22 PM

To John Dalton/CASO/CA/BLM/DOI@BLM, Charmaine  
Christe/CASO/CA/BLM/DOI@BLM  
cc  
bcc  
Subject Fw: Navy Comments on BLM Choc Mtn NOI (This is  
comment letter, final email with last attachment coming)

For your records

\*\*\*\*\*

Greg Miller  
Program Manager  
Renewable Energy Coordinating Office  
California Desert District  
Bureau of Land Management  
22835 Calle San Juan de Los Lagos  
Moreno Valley, CA 92553  
Ph 951 697-5216  
Cell 951 970-8859

CONFIDENTIALITY NOTICE: This message including any attachments is intended exclusively for the individual(s) or entity to which it is addressed. This communication may contain information which is proprietary, privileged, confidential, or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy or disseminate this message or any part of it without the express authorization from the author.

----- Forwarded by Gregory Miller/CASO/CA/BLM/DOI on 03/12/2010 01:22 PM -----



"Brasher, DeEllen M CIV  
CNRSW, N40"  
<deellen.brasher@navy.mil>  
03/12/2010 01:12 PM

To <Gregory\_Miller@ca.blm.gov>  
cc  
Subject FW: Navy Comments on BLM Choc Mtn NOI (This is  
comment letter, final email with last attachment coming)

-----Original Message-----

From: Brasher, DeEllen M CIV CNRSW, N40  
Sent: Friday, March 12, 2010 12:36  
To: 'jeubanks@ca.blm.gov'  
Cc: Brasher, DeEllen M CIV CNRSW, N40  
Subject: FW: Navy Comments on BLM Choc Mtn NOI (This is comment letter,  
final email with last attachment coming)

BLM CA Desert District Office,

On behalf of the Department of the Navy (DoN), Navy Region Southwest (NRSW), I am providing scoping comments under the National Environmental Policy Act (NEPA) on the BLM proposal to prepare an Environmental Impact Statement for the Proposed West Chocolate Mountains Renewable Energy Evaluation Area, Imperial County, California.

This letter with the 3 attachments will be mailed out today.

Navy Region Southwest appreciates the opportunity to provide this input.

V/R, Chris  
Christopher L. Stathos  
Fleet Environmental Coordinator &  
Deputy Regional Environmental Coordinator Navy Region Southwest  
937 N. Harbor Drive  
San Diego, CA 92132  
Phone: (619) 532-2308  
Fax: (619) 532-2283



BLM Choc Mt NOI DoD Comments.PDF



DEPARTMENT OF THE NAVY  
COMMANDER NAVY REGION SOUTHWEST  
937 NO. HARBOR DR.  
SAN DIEGO, CALIFORNIA 92132-0058

IN REPLY REFER TO:

5090

Ser N40JRR.cs/0008

March 12, 2010

Electronic Submission to: [cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov).

Mr. John Dalton  
California Desert District Office  
Bureau of Land Management  
22835 Calle San Juan de Los Lagos  
Moreno Valley, California 92553-9046

Dear Mr. Dalton,

SUBJECT: NOTICE OF INTENT TO PREPARE AN ENVIRONMENTAL IMPACT  
STATEMENT FOR THE PROPOSED WEST CHOCOLATE MOUNTAINS  
RENEWABLE ENERGY EVALUATION AREA, IMPERIAL COUNTY,  
CALIFORNIA AND POSSIBLE AMENDMENT TO THE CALIFORNIA  
DESERT CONSERVATION AREA

On behalf of the Department of the Navy (DoN), Navy Region Southwest (NRSW), I am responding to the Bureau of Land Management (BLM) Notice of Intent to Prepare an Environmental Impact Statement for the Proposed West Chocolate Mountains Renewable Energy Evaluation Area, Imperial County, California and Possible Amendment to the California Desert Conservation Area (75 Fed Reg 6698; February 10, 2010). Navy Region Southwest appreciates the opportunity to provide scoping comments under the National Environmental Policy Act (NEPA) on the BLM proposal to examine whether all, a portion of, or no lands within the area should be leased for geothermal exploration and development, solar energy development through right-of-ways (ROWS), or wind energy development through ROWs.

Navy Region Southwest is the shore installation management headquarters for the DoN's Southwest region, which includes California. The military supports and encourages cost effective development of renewable energy, in a manner designed to avoid adverse impacts to the mission and safety on or near military lands and under designated airspace. We have developed scoping comments that emphasize sustained access to air and land, ensuring the continuing ability to accomplish the military mission.



Our scoping comments will focus on the compatibility of the proposal with military land and airspace use adjacent to or in the vicinity of the area proposed to be studied. These land and airspace uses include: (1) military testing and training for operational readiness; and, (2) other military land and air uses.

## **I. Military Testing and Training for Operational Readiness**

### **A. Navy Special Forces Command**

Navy Special Warfare conducts readiness training on and around the Chocolate Mountain Aerial Gunnery Range. The training consists of: (1) maneuver of forces; (2) live fire on established military owned ranges; (3) land navigation; and, (4) tactical ground mobility. The training is concentrated on the Southwest portion of the Chocolate Mountain Range. Some long range ground mobility training is conducted outside of the range on BLM managed property. The portion of the training conducted on the Chocolate Mountain Range is addressed in the Yuma Training Range Complex Final Environmental Impact Statement (EIS) 1996. Impacts to adjacent Navy Special Warfare readiness training activities need to be evaluated in the BLM's Draft EIS.

### **B. Military Training Routes (MTRs) and Special Use Airspace**

The DoN views the development of lands, construction of cellular and meteorological towers and windmills as important national priorities. The DoN encourages and supports development of these resources in conjunction with Federal, State and local agencies while simultaneously avoiding adverse encroachment impacts to the military's aviation mission and flight safety.

There are several low-level military training routes (MTRs) and special use airspace (SUAs) in the vicinity of the proposed project. These MTRs and SUAs have been developed in coordination with the Federal Aviation Administration (FAA), the Department of Defense (DoD) and the DoN. MTRs and SUAs provide: (1) aircrew training; (2) cruise missile test flights; and, (3) research, development, test and evaluation (RDT&E) of military weapons systems. Continued use is extremely critical to pilot and aircrew survivability training. Alternative energy development needs to be evaluated for compatibility with existing MTRs and SUAs. These MTRs and SUAs are also used for Night Vision Goggle (NVG) training, therefore light encroachment from project development must also be considered.



Wind turbines, solar generating facilities and transmission lines have potential impacts on the military mission. These tall structures can encroach on airspace, creating avoidance zones and preventing low-level aviation testing and training in these areas. Wind turbines also effect the operation of ground based and airborne radar systems. In general, wind turbines raise the ambient electro-magnetic 'noise level', which decreases the probability of radar detection. Additionally, supersonic aircraft can produce sonic booms that emit sound energy that is potentially damaging to solar equipment. Transmission and feeder lines also present a possible conflict with already existing uses. These impacts need to be evaluated in the BLM's Draft EIS.

## **II. Other Military Land and Air Use**

### **A. Chocolate Mountain Aerial Bombing and Gunnery Range**

It is our understanding the United States Marine Corps, through the Regional Environmental Coordination Office, Marine Corps Installations-West, will provide scoping comments under a separate cover. These comments will specifically address the Chocolate Mountain Aerial Bombing and Gunnery Range, a military range operated as part of the Yuma Training Range Complex.

### **B. Installation Management Issues**

Naval Air Facility El Centro is a military installation in the nearby vicinity to the proposed project area. There are installation management issues to consider, including: (1) potential displacement of protected natural resources onto military lands due to development of nearby public lands; (2) growth caused by public lands development leading to an increase in noise and traffic load onto nearby communities; (3) range transients crossing military property and related security and safety concerns; and (4) encroachment onto military lands by recreationalists due to adjacent public development. These impacts will need to be evaluated in the BLM's Draft EIS.

Supporting the BLM's analysis of compatible military land and air use during development of public lands for alternative energy projects, we offer the following documents as reference material:

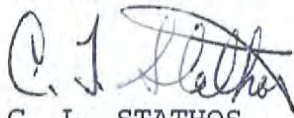
- (1) Memorandum of Understanding Between the Department of the Navy, Bureau of Reclamation and Bureau of Land Management with Regard to the Defense Related Uses of Federal Lands

- in Conjunction with El Centro Naval Air Facility Ranges Withdrawal; P.L. 104-201 (1997);
- (2) Community and Military Compatibility Planning, Supplement to the General Plan Guidelines; State of California Governor's Office of Planning and Research (2009);
  - (3) OPNAVINST 3550.1A and MCO 3550.11 Range Air Installations Compatible Use Zones (RAICUZ) Program (2008).

We appreciate very much the opportunity to participate in the scoping process under 40 CFR Section 1501.7. References identified above will be sent in to the BLM in an effort to share this land use information and support development of the Draft Environmental Impact Statement. Navy Region Southwest welcomes the opportunity to participate in additional collaborative processes. Partnering in the environmental planning process ensures that these issues of importance to the DoN will be considered by the BLM.

My staff point of contact for further information is Ms. DeEllen Brasher at (619) 532-2434; deellen.brasher@navy.mil.

Sincerely,



C. L. STATHOS  
By Direction

CC:

(1) Major Ernie Govea  
Regional Environmental Coordination Office  
Marine Corps Installations-West (G-7)  
Camp Pendleton, CA 92054

Electronic Attachments:

(1) Memorandum of Understanding Between the Department of the Navy, Bureau of Reclamation and Bureau of Land Management with Regard to the Defense Related Uses of Federal Lands in Conjunction with El Centro Naval Air Facility Ranges Withdrawal; P.L. 104-201 (1997)

(2) Community and Military Compatibility Planning, Supplement to the General Plan Guidelines; State of California Governor's Office of Planning and Research (2009)

(3) OPNAVINST 3550.1A and MCO 3550.11 Range Air Installations Compatible Use Zones (RAICUZ) Program (2008)



CENTER for BIOLOGICAL DIVERSITY

*Because life is good.*

*protecting and restoring natural ecosystems and imperiled species through  
science, education, policy, and environmental law  
via fax, electronic and US mail*

March 12, 2010

John Dalton, BLM  
California Desert District Office,  
22835 Calle San Juan de Los Lagos,  
Moreno Valley, California 92553-9046.  
[cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov)  
<http://www.blm.gov/ca/st/en/fo/cdd.html>

**RE: Comments on the Notice of Intent To Prepare an Environmental Impact Statement for the Proposed West Chocolate Mountains Renewable Energy Evaluation Area, Imperial County, CA, and Possible Land Use Plan Amendment. 75 FR 6698.**

Dear Mr. Dalton,

Please accept the Center for Biological Diversity's comments on the Notice of Intent ("NOI") to prepare an Environmental Impact Statement (EIS) for the West Chocolate Mountains Renewable Energy Evaluation Area (the proposal), Imperial County, CA, and Possible Land Use Plan Amendment in compliance with the National Environmental Policy Act of 1969 (NEPA), as amended, and the Endangered Species Act (ESA), on the impacts of the proposal. The Center is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. These scoping comments are submitted on behalf of the Center's 240,000 staff, members and online activists throughout California and the western United States many of whom live in southern California and enjoy visiting, studying, photographing and hiking in the California Desert Conservation Area, including the areas on and around the project site.

The development of renewable energy is a critical component of efforts to reduce greenhouse gas emissions, avoid the worst consequences of global warming, and to assist California in meeting emission reductions set by AB 32 and Executive Orders S-03-05 and S-21-09. The Center strongly supports the development of renewable energy production, and the generation of electricity from solar power, in particular. However, like any proposal, thoughtfully planned areas where minimal impacts to the environment would occur should be the goal of development on public lands. In particular, renewable energy evaluation areas should avoid impacts to sensitive species and habitat, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and the efficiency loss associated with extended energy transmission. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

Arizona • California • Nevada • New Mexico • Alaska • Oregon • Montana • Illinois • Minnesota • Vermont • Washington, DC

---

Ileene Anderson, Staff Biologist  
PMB 447, 8033 Sunset Blvd. • Los Angeles, CA 90046-2401  
tel: (323) 654.5943 fax: (323) 650.4620 email: [landerson@biologicaldiversity.org](mailto:landerson@biologicaldiversity.org)  
[www.BiologicalDiversity.org](http://www.BiologicalDiversity.org)

The 21,300 acres of BLM-managed lands within the West Chocolate Mountains Renewable Energy Evaluation Area may be appropriate for renewable energy development, however thorough surveys need to be done in the proper season on the proposed site. This project requires a proposed land use plan amendment to the 1980 California Desert Conservation Area (CDCA) Plan, as amended. We were part of the coalition that proposed this area for potential renewable energy, and submitted a map identifying this area as such. Our proposal was based on currently available data that indicates that the identified proposed solar zones have low potential for significant resource conflicts. However, site-specific surveys are still necessary.

The Energy Production and Utility Corridors section of the California Desert Conservation Area Plan (1980) as amended requires at minimum that the following resource issues be addressed:

- 1) Consistency with the Desert Plan, including designated and proposed planning corridors;
- 2) Protection of air quality;
- 3) Impact on adjacent wilderness and sensitive resources;
- 4) Visual quality;
- 5) Cooling-water source(s);
- 6) Waste disposal;
- 7) Seismic hazards; and
- 8) Regional equity.

Additionally, a number of other resources are of concern to us and need to be addressed in detail as follow below:

#### **Piecemeal Planning**

While we are encouraged to see that BLM is considering areas that may have fewer environmental impacts than currently proposed project sites, we are concerned that this study area, which should have been included in the Solar PEIS process, is now signaling that additional study areas could proliferate across the western landscape. Study area designation should not be piecemealed but instead should be included in the existing process or at a minimum be developed in a focused and comprehensive manner.

Additionally, the DEIS should clearly identify how this process relates to and is complementary to the Geothermal PEIS, Wind PEIS, and Solar PEIS and associated SESAs, the Northern and Eastern Colorado Plan, the Imperial Sand Dunes Management Plan and other planning efforts in the general area, including the Imperial Irrigation District HCP/NCCP. Lastly, the EIS should also identify how this process fits in with the Desert Renewable Energy Conservation Plan and transmission planning processes.

#### **Biological Resources**

Based on the proposal description, it appears that this site is an ecologically functional desert landscape that may host a suite of rare species. Careful documentation of the current site resources is imperative in order to analyze how best to site the project to avoid and minimize impacts and then to mitigate any unavoidable impacts.



### *Biological Surveys and Mapping*

The Center requests that thorough, seasonal surveys be performed for sensitive plant species and vegetation communities, and animal species under the direction and supervision of the BLM and resource agencies such as the US Fish and Wildlife Service and the California Department of Fish and Game. Full disclosure of survey methods and results to the public and other agencies without limitations imposed by the applicant must be implemented to assure full NEPA/ESA compliance.

Surveys for the plants and plant communities should follow California Native Plant Society (CNPS) and California Department of Fish and Game (CDFG) floristic survey guidelines<sup>1</sup> and should be documented as recommended by CNPS<sup>2</sup> and California Botanical Society policy guidelines. A full floral inventory of all species encountered needs to be documented and included in the EIS. Surveys for animals should include an evaluation of the California Wildlife Habitat Relationship System's (CWHR) Habitat Classification Scheme. All rare species (plants or animals) need to be documented with a California Natural Diversity Data Base form and submitted to the California Department of Fish and Game using the CNDDDB Form<sup>3</sup> as per the State's instructions<sup>4</sup>.

The Center requests that the vegetation maps be at a large enough scale to be useful for evaluating the impacts. Vegetation/wash habitat mapping should be at such a scale to provide an accurate accounting of wash areas and adjacent habitat types that will be directly or indirectly affected by the proposed activities. A half-acre minimum mapping unit size is recommended, such as has been used for other development projects. Habitat classification should follow CNPS' Manual of California Vegetation (Sawyer et. al. 2009).

Adequate surveys must be implemented, not just a single season of surveys, in order to evaluate the existing on-site conditions. Due to unpredictable precipitation, desert organisms have evolved to survive in these harsh conditions and if surveys are performed at inappropriate times or year or in particularly dry years many plants that are in fact on-site may not be apparent during surveys (ex. annual and herbaceous perennial plants).

### *Impact Analysis*

The EIS must evaluate all direct, indirect, and cumulative impacts to sensitive habitats, including impacts associated with the establishment of unpermitted recreational activities, the introduction of non-native plants, the introduction of lighting, noise, and the loss and disruption of essential habitat due to edge effects.

A number of rare resources have potential to occur on this site including:

<i>Common Name</i>	<i>Scientific Name</i>	<i>State/Federal/Other Status</i>
Desert Tortoise	<i>Gopherus agassizii</i>	CT/FT

<sup>1</sup> <http://www.cnps.org/cnps/rareplants/inventory/guidelines.php> and [http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols\\_for\\_Surveying\\_and\\_Evaluating\\_Impacts.pdf](http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/Protocols_for_Surveying_and_Evaluating_Impacts.pdf)

<sup>2</sup> <http://www.cnps.org/cnps/archive/collecting.php>

<sup>3</sup> [http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB\\_FieldSurveyForm.pdf](http://www.dfg.ca.gov/biogeodata/cnddb/pdfs/CNDDDB_FieldSurveyForm.pdf)

<sup>4</sup> [http://www.dfg.ca.gov/biogeodata/cnddb/submitting\\_data\\_to\\_cnddb.asp](http://www.dfg.ca.gov/biogeodata/cnddb/submitting_data_to_cnddb.asp)

Flat tailed horned lizard	<i>Phrynosoma mcallii</i>	<i>CSC/FPT</i>
Burrowing owl	<i>Athene cunicularia hypugaea</i>	<i>CSC/BLM SS</i>
California black rail	<i>Laterallus jamaicensis coturniculus</i>	<i>CT/BLM SS</i>
Munz's cholla	<i>Opuntia munzii</i>	<i>CNPS 1B.3/BLM SS/</i>
Loggerhead shrike	<i>Lanius ludovicianus</i>	<i>CSC/FSC/MB</i>
Nelson's bighorn sheep	<i>Ovis canadensis nelsonii</i>	<i>Game species</i>
<p><b>State Designation</b>  CT State listed as threatened. Species that although not presently threatened in California with extinction are likely to become endangered in the foreseeable future.  CSC California Department of Fish and Game "Species of Special Concern." Species with declining populations in California.</p> <p><b>Federal Designation</b>  FT Federally listed as threatened.  FP Federally Proposed for listing as threatened.  MB Migratory Bird Treaty Act. of 1918. Protects native birds, eggs, and their nests.  BLM SS BLM Sensitive Species.</p> <p><b>Other</b>  California Native Plant Society (CNPS)  1B.3 Plant rare, threatened or endangered in California and elsewhere, and not very threatened.</p>		

All of these species have been identified as occurring in the general vicinity of the project site.<sup>5</sup> Therefore, the EIS must adequately address the impacts and propose effective ways to avoid, minimize, and mitigate the impacts to these resources through alternatives including alternative siting and alternative on-site configurations.

#### ***Desert Tortoise***

The desert tortoise is continuing to decline throughout its range despite being under federal and state Endangered Species Acts protection as threatened<sup>6</sup>. The proposal may have desert tortoise occurring on site. The BLM must first look at ways to avoid impacts to the desert tortoise, for example, by identifying and analyzing *alternative configurations and sites* outside of desert tortoise occupied habitat including areas that have already been severely disturbed by other prior land use as well as alternative proposal configurations that would avoid impacts.

#### ***Flat-tailed Horned Lizard***

Recently, The U.S. Fish and Wildlife Service reinstated their November 29, 1993, proposed rule to list the flat-tailed horned lizard as threatened under the Endangered Species Act of 1973, as amended (Act). Public comment is now open on that proposed rule. This proposal may have flat-tailed horned lizard occurring on site. As with the desert tortoise the BLM must look at ways to avoid impacts by configuring the proposal so as to avoid impacts to the lizard. The EIS should also address compliance with the flat-tailed horned lizard Management Strategy.

#### ***Burrowing Owl***

Imperial County is a strong-hold for the burrowing owl in the state<sup>7</sup>. If burrowing owls are identified on the site, the study area should be altered to avoid the burrowing owls.

<sup>5</sup> CNDDDB 2010

<sup>6</sup> USFWS 2009

<sup>7</sup> IBP 2009

### ***Other Rare Species***

As with the other rare species above, the benefit of looking at an area like this proposal is the opportunity for the BLM to hone in on a proposal that avoids the rare resources and identify an area that lacks or has very few rare species conflicts, based on the results of comprehensive surveys.

### **Water Resources**

The proposal may include tributaries to Mammoth wash, and certainly some microphyll woodland areas that are supported by infrequent water flows. The EIS document must avoid and minimize impacts to the jurisdictional Waters of U.S. and the Water of the State of California, and identify a comprehensive mitigation strategy if impacts are to occur.

An evaluation of the effect of additional groundwater pumping (in conjunction with other groundwater issues [pumping, nitrate plume etc.] in the basin) on the water quality in the basin and surface water resources, and its effect on the native plant and animal species and their habitats need to be included in the EIS.

### **Alternatives**

The EIS must include a robust analysis of alternatives, including a private lands alternative and alternatives using other technologies including distributed generation. The stated objectives of the project must not unreasonably constrain the range of feasible alternatives evaluated in the EIS. The BLM must establish an independent set of objectives that do not unreasonably limit the EIS's analysis of feasible alternatives including alternative sites. At a minimum alternatives including the no-action alternative, an environmentally preferred alternative and an alternative where power generation is sited adjacent to power consumption need to be included.

### **Other Issues**

#### ***Fire Impacts***

Because the any industrial project increases the potential for human-caused fire to occur on site, an analysis of fire and prevention including best management practices must be addressed and clearly identified in the EIS - not only on-site protection of resources, but also preventing fire from moving into the adjacent lands. Fire is incredibly detrimental to desert ecosystems, resulting in degradation of the habitat and if frequently reburned results in a type conversion to non-native vegetation<sup>8</sup>.

#### ***Non-Native Plants***

The EIS must identify and evaluate impacts to species and ecosystems from invasive exotics species. Many of these species invade disturbed areas, and then spread into wildlands. Fragmentation of intact, ecologically functioning communities further aides the spread and degradation of plant communities<sup>9</sup>. These factors for wildland weeds are present in the study area, and their affect must be evaluated in the EIS. Additionally, landscaping with exotic species is often the vector for introducing invasive exotics into adjacent habitats and should be

---

<sup>8</sup> Brooks and Draper 2006

<sup>9</sup> Bossard et al 2000



prohibited. Invasive landscape species displace native vegetation, degrade functioning ecosystems, provide little or no habitat for native animals, and increase fire danger and carrying capacity<sup>10</sup> and should be banned from the project site.

#### *Wildlife Movement*

A thorough and independent evaluation of the study area's impacts on wildlife movement is essential. The EIS must evaluate all direct, indirect, and cumulative impacts to wildlife movement corridors. The analysis should cover movement of large mammals, as well as other taxonomic groups, including small mammals, birds, reptiles, amphibians, invertebrates, and vegetation communities. The EIS should first evaluate habitat suitability within the analysis window for multiple species, including all listed and sensitive species. The habitat suitability maps generated for each species should then be used to evaluate the size of suitable habitat patches in relation to the species average territory size to determine the appropriate size and location of linkages and that they provide both live-in and move-through habitat. The analyses should also evaluate if suitable habitat patches are within the dispersal distance of each species. The EIS should address both individual and intergenerational movement (i.e., will the linkages support metapopulations of smaller, less vagile species). The EIS should identify how to maintain connectivity by species. In addition, the EIS should consider how wildlife movement will be affected by other planned on-going, planned, and proposed development including ORV recreation in the region as part of the cumulative impacts.

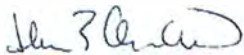
The EIS should identify wildlife movement corridors that are wide enough to minimize edge effects and allow natural processes of disturbance and subsequent recruitment to function. The EIS should also incorporate into the wildlife movement corridors key resources for species, such as host plants, pollinators, or other elements. For example, many species commonly found in washes depend on upland habitats during some portion of their cycle. Upland habitat protection is also necessary to prevent the degradation of aquatic habitat quality.

#### **Cumulative Impacts**

Because of the number of projects that are already proposed in the CDCA, a thorough analysis of the cumulative impacts from all of these projects on the resources needs to be included.

Thank you for your consideration of these comments. Please add us to the distribution list for the EIS and all notices associated with this project.

Sincerely,



Ilene Anderson  
Biologist/Public Lands Desert Director  
Center for Biological Diversity

---

<sup>10</sup> Brooks 2000

## References

- Bossard, C.C., J.M. Randall and M.C. Hoshovsky. 2000. Invasive Plants of California's Wildlands. University of California Press. Berkeley, CA. Pgs. 360.
- Brooks, M. L. 2000. Competition between alien annual grasses and native annual plants in the Mojave desert. *Am. Midl. Nat.* 144:92–108.
- Brooks, M.L. and J.V. Draper 2006. Fire effects on seed banks and vegetation in the eastern Mojave desert: Implications for post-fire management. extended abstract, U.S. Geological Survey, Western Ecological Research Center, Henderson, Nevada, pg. 3. Available at [http://www.nps.gov/moja/naturescience/upload/Fire%20congress%202006\\_brooks%20and%20draper\\_extended%20abstract.pdf](http://www.nps.gov/moja/naturescience/upload/Fire%20congress%202006_brooks%20and%20draper_extended%20abstract.pdf)
- Bureau of Land Management (BLM), U.S. Department of Interior  
2006. Final Environmental Impact Statement/Proposed Northern and Eastern Colorado Management Plan and Amendment to the California Desert Conservation Area Plan. + Appendices.  
  
1980. California Desert Conservation Area Plan as amended. Pgs. 159 + appendices.
- Institute for Bird Populations (IBP) 2009. Survey results for Breeding Burrowing Owl Survey in California. Available at [http://www.birdpop.org/DownloadDocuments/BUOW\\_ENEWSLETTER\\_spring\\_2008.pdf](http://www.birdpop.org/DownloadDocuments/BUOW_ENEWSLETTER_spring_2008.pdf)
- Sawyer, J., T. Keeler-Wolf and J. Evens 2009. A Manual of California Vegetation, Second Edition. California Native Plant Society. Pgs. 500+
- U.S. Fish and Wildlife Service (USFWS) 2009. Range-wide Monitoring of the Mojave Population of the Desert Tortoise: 2007 Annual Report. Report by the Desert Tortoise Recovery Office, U.S. Fish and Wildlife Service, Reno, Nevada. Pgs. 77 Available at [http://www.fws.gov/Nevada/desert\\_tortoise/documents/reports/2007\\_Rangewide\\_Desert\\_Tortoise\\_Population\\_Monitoring.pdf](http://www.fws.gov/Nevada/desert_tortoise/documents/reports/2007_Rangewide_Desert_Tortoise_Population_Monitoring.pdf)



Joyce Dillard  
<dillardjoyce@yahoo.com>  
03/19/2010 03:43 PM

To John Dalton <John\_Dalton@ca.blm.gov>  
cc  
bcc  
Subject Comments to Public Scoping West Chocolate Mountains due  
3.19.2010

## Comments to Public Scoping West Chocolate Mountains due 3.19.2010

The Environmental Review should include studies on the implementation of the alternative resource energies.

Land Use becomes an issue for:

- ☐ Transmission lines
- ☐ Wildlife including fishes, aviary and endangered species
- ☐ Plants including endangered species
- ☐ Water

Transmission lines change the uses and wildlife, birds and plants are disrupted. Disrupted scenic views or property damage in this area changes the economic impacts of any tourism.

The natural ecosystem is disrupted with loss of wildlife, plants and birds with effects in the hydrology and with the drought?

Transmission also includes loss of energy in Wind and Solar. How is that loss distributed in the area and with what effect?

How much continuous land is needed for Solar Farms and Wind Farms? What infrastructure needs to be built to sustain the new land use?

Studies need to be done on noise in the immediate area and noise carried through mountainous areas and through canyons.

What contamination exists with the former gunnery range? Has the US Army Corps of Engineers cleared the property for use? Is there lead contamination? What effect will land use changes increase that contamination?

Geothermal energy effects land use and subsidence. Brine water is usually used. Will the use of water cause any conservation problems or increased water costs to the service areas? Will water importation be required and from what source? How does this affect the State drought? Scientific studies and measurements should be included.

What affects are there with the Clean Water Act?

What effects are there to the minerals in the project area? What is the effect on Greenhouse Gas Emissions?

What effects on air quality is caused by geothermal energy?

Needed are expert opinions on seismic activity and its effects in the area not only for geothermal but for the disruption in solar or wind transmission.

What fire risk exists? Is there sufficient fire personnel and equipment?

Is the area tribal land?

Are there casinos nearby on any tribal land and what effects will transmission or extraction (geothermal)?

What risks does this project present in Homeland Security issues? Are there enough Police and other law enforcement personnel to cover those risks?

How do these renewable energies increase the commerce or economic development of the region? Are other regions favored in more commerce and economic development or will it stay local? What is the cost-benefit of having these renewable energies in the region?

What is the jurisdiction for enforcement?

How will this project affect Health and Safety issues in the region including access to services and especially emergency services and hospitals?

What archaeological or historic sites are in the project area?

If traffic is increased, what congestion plans are in place?

What costs to cover mitigation and/or operation and maintenance will be funded by this County and what by other benefitting Counties?

Joyce Dillard

P.O. Box 31377  
Los Angeles, CA 90031

# **BURROWING OWL CONSORTIUM**

## **Survey Protocol & Mitigation Guidelines**

### **INTRODUCTION**

California's burrowing owl population is clearly in peril and if declines continue unchecked the species may qualify for listing. Because of the intense pressure for development of open, flat grasslands in California, resource managers frequently face conflicts between owls and development projects. Owls can be affected by disturbance and habitat loss, even though there may be no direct impacts to the birds themselves or their burrows. There is often inadequate information about the presence of owls on a project site until ground disturbance is imminent. When this occurs there is usually insufficient time to evaluate impacts to owls and their habitat. The absence of standardized field survey methods impairs adequate and consistent impact assessment during regulatory review processes, which in turn reduces the possibility of effective mitigation.

These guidelines are intended to provide a decision-making process that should be implemented wherever there is potential for an action or project to adversely affect burrowing owls or the resources that support them. The process begins with a four-step survey protocol to document the presence of burrowing owl habitat, and evaluate burrowing owl use of the project site and a surrounding buffer zone. When surveys confirm occupied habitat, the mitigation measures are followed to minimize impacts to burrowing owls, their burrows and foraging habitat on the site. These guidelines emphasize maintaining burrowing owls and their resources in place rather than minimizing impacts through displacement of owls to an alternate site.

Each project and situation is different and these procedures may not be applicable in some circumstances. Finally, these are not strict rules or requirements that must be applied in all situations. They are guidelines to consider when evaluating burrowing owls and their habitat, and they suggest options for burrowing owl conservation when land use decisions are made.

Section 1 describes the four phase Burrowing Owl Survey Protocol. Section 2 contains the Mitigation Guidelines. Section 3 contains a discussion of various laws and regulations that protect burrowing owls and a list of references cited in the text.

We have submitted these documents to the California Department of Fish and Game (CDFG) for review and comment. These are untested procedures and we ask for your comments on improving their usefulness.



# **SECTION 1 - BURROWING OWL SURVEY** **PROTOCOL**

## **PHASE I: HABITAT ASSESSMENT**

The first step in the survey process is to assess the presence of burrowing owl habitat on the project site including a 150-meter (approx. 500 ft.) buffer zone around the project boundary (Thomsen 1971, Martin 1973).

### **Burrowing Owl Habitat Description**

Burrowing owl habitat can be found in annual and perennial grasslands, deserts, and scrublands characterized by low-growing vegetation (Zarn 1974). Suitable owl habitat may also include trees and shrubs if the canopy covers less than 30 percent of the ground surface. Burrows are the essential component of burrowing owl habitat: both natural and artificial burrows provide protection, shelter, and nests for burrowing owls (Henny and Blus 1981). Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels or badgers, but also may use man-made structures, such as cement culverts; cement, asphalt, or wood debris piles; or openings beneath cement or asphalt pavement.

### **Occupied Burrowing Owl Habitat**

Burrowing owls may use a site for breeding, wintering, foraging, and/or migration stopovers. Occupancy of suitable burrowing owl habitat can be verified at a site by an observation of at least one burrowing owl, or, alternatively, its molted feathers, cast pellets, prey remains, eggshell fragments, or excrement at or near a burrow entrance. Burrowing owls exhibit high site fidelity, reusing burrows year after year (Rich 1984, Feeney 1992). A site should be assumed occupied if at least one burrowing owl has been observed occupying a burrow there within the last three years (Rich 1984).

The Phase II burrow survey is required if burrowing owl habitat occurs on the site. If burrowing owl habitat is not present on the project site and buffer zone, the Phase II burrow survey is not necessary. A written report of the habitat assessment should be prepared (Phase IV), stating the reason(s) why the area is not burrowing owl habitat.

## **PHASE II: BURROW SURVEY**



1. A survey for burrows and owls should be conducted by walking through suitable habitat over the entire project site and in areas within 150 meters (approx 500 ft.) of the project impact zone. This 150-meter buffer zone is included to account for adjacent burrows and foraging habitat outside the project area and impacts from factors such as noise and vibration due to heavy equipment which could impact resources outside the project area.

2. Pedestrian survey transects should be spaced to allow 100 percent visual coverage of the ground surface. The distance between transect center lines should be no more than 30 meters (approx. 100 ft.), and should be reduced to account for differences in terrain, vegetation density, and ground surface visibility. To efficiently survey projects larger than 100 acres, it is recommended that two or more surveyors conduct concurrent surveys. Surveyors should maintain a minimum distance of 50 meters (approx. 160 ft.) from any owls or occupied burrows. It is important to minimize disturbance near occupied burrows during all seasons.

3. If burrows or burrowing owls are recorded on the site, a map should be prepared of the burrow concentration areas. A breeding season survey and census (Phase III) of burrowing owls is the next step required.

4. Prepare a report (Phase IV) of the burrow survey stating whether or not burrows are present.

5. A preconstruction survey may be required by project-specific mitigations no more than 30 days prior to ground disturbing activity.

### **PHASE III: BURROWING OWL SURVEYS, CENSUS AND MAPPING**

If the project site contains burrows that could be used by burrowing owls, then survey efforts should be directed towards determining owl presence on the site. Surveys in the breeding season are required to describe if, when, and how the site is used by burrowing owls. If no owls are observed using the site during the breeding season, a winter survey is required.

#### **Survey Methodology**

A complete burrowing owl survey consists of four site visits. During the initial site visit examine burrows for owl sign and map the locations of occupied burrows.

Subsequent observations should be conducted from as many fixed points as necessary to provide visual coverage of the site using spotting scopes or binoculars. It is important to minimize disturbance near occupied burrows during all seasons. Site visits must be repeated on four separate days. Conduct these visits from two hours before sunset to one hour after or from one hour before to two hours after sunrise. Surveys should be conducted during weather that is conducive to observing owls outside their burrows. Avoid surveys during heavy rain, high winds (> 20 mph), or dense fog.

**Nesting Season Survey.** The burrowing owl nesting season begins as early as February 1 and continues through August 31 (Thomsen 1971, Zarn 1974). The timing of nesting activities may vary with latitude and climatic conditions. If possible, the nesting season survey should be conducted during the peak of the breeding season, between April 15 and July 15. Count and map all burrowing owl sightings, occupied burrows, and burrows with owl sign. Record numbers of pairs and juveniles, and behavior such as courtship and copulation. Map the approximate territory boundaries and foraging areas if known.

**Survey for Winter Residents (non-breeding owls).** Winter surveys should be conducted between December 1 and January 31, during the period when wintering owls are most likely to be present. Count and map all owl sightings, occupied burrows, and burrows with owl sign.

**Surveys Outside the Winter and Nesting Seasons.** Positive results (i.e., owl sightings) outside of the above survey periods would be adequate to determine presence of owls on site. However, results of these surveys may be inadequate for mitigation planning because the numbers of owls and their pattern of distribution may change during winter and nesting seasons. Negative results during surveys outside the above periods are not conclusive proof that owls do not use the site.

**Preconstruction Survey.** A preconstruction survey may be required by project-specific mitigations and should be conducted no more than 30 days prior to ground disturbing activity.

## **PHASE IV: RESOURCE SUMMARY, WRITTEN REPORT**

A report should be prepared for CDFG that gives the results of each Phase of the survey protocol, as outlined below.

### **Phase I: Habitat Assessment**

1. Date and time of visit(s) including weather and visibility conditions; methods of survey.
2. Site description including the following information: location, size, topography, vegetation communities, and animals observed during visit(s).
3. An assessment of habitat suitability for burrowing owls and explanation.

4. A map of the site.

### **Phase II: Burrow Survey**

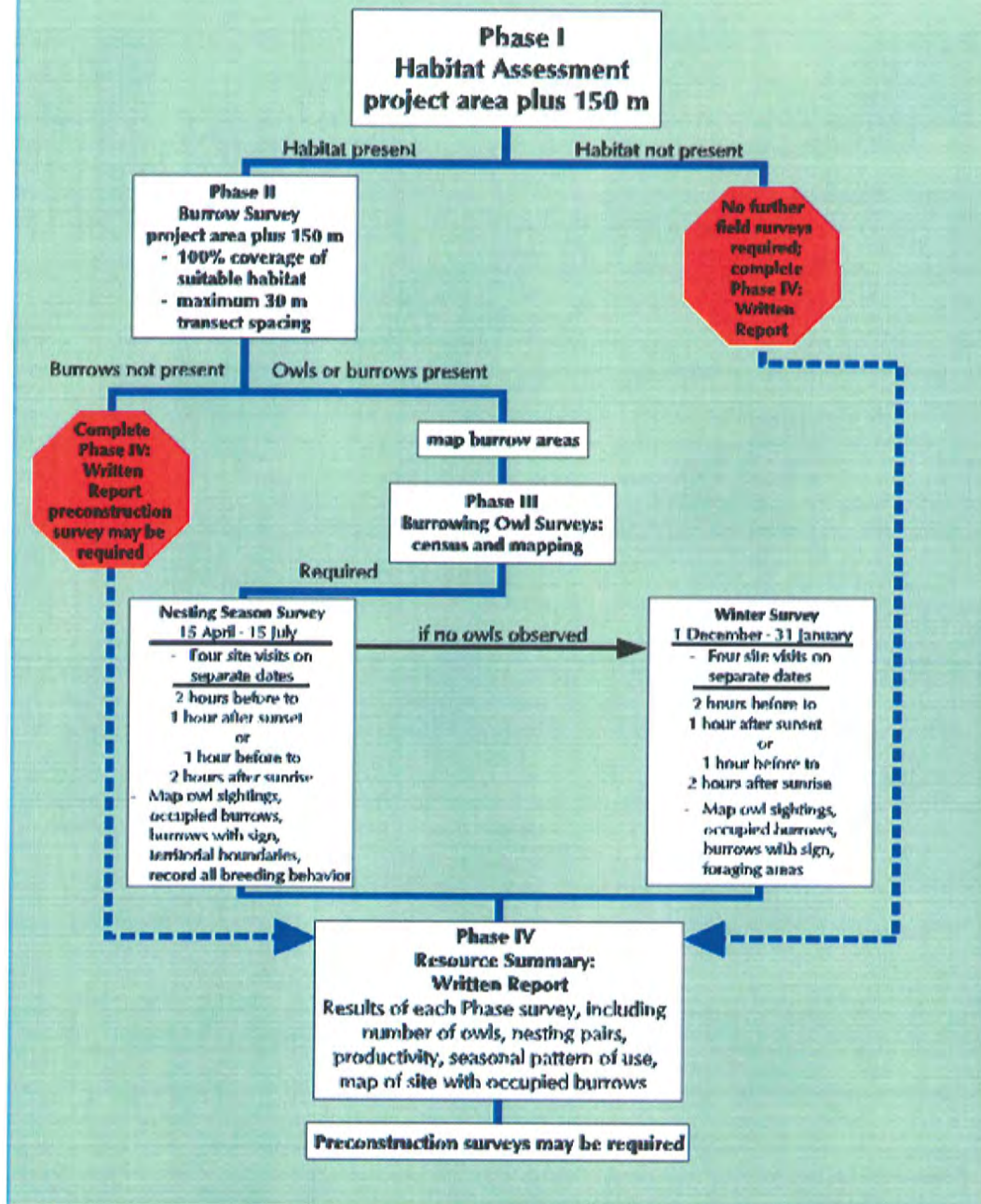
1. Date and time of visits including weather and visibility conditions; survey methods including transect spacing.
2. A more detailed site description should be made during this phase of the survey protocol including a partial plant list of primary vegetation, location of nearest freshwater (on or within one mile of site), animals observed during transects.
3. Results of survey transects including a map showing the location of concentrations of burrow(s) (natural or artificial) and owl(s), if present.

### **Phase III: Burrowing Owl Surveys, Census and Mapping**

1. Date and time of visits including weather and visibility conditions; survey methods including transect spacing.
2. Report and map the location of all burrowing owls and owl sign. Burrows occupied by owl(s) should be mapped indicating the number of owls at each burrow. Tracks, feathers, pellets, or other items (prey remains, animal scat) at burrows should also be reported.
3. Behavior of owls during the surveys should be carefully recorded (from a distance) and reported. Describe and map areas used by owls during the surveys. Although not required, all behavior is valuable to document including feeding, resting, courtship, alarm, territorial, parental, or juvenile behavior.
4. Both winter and nesting season surveys should be summarized. If possible include information regarding productivity of pairs, seasonal pattern of use, and include a map of the colony showing territorial boundaries and home ranges.
5. The historical presence of burrowing owls on site should be documented, as well as the source of such information (local bird club, Audubon society, other biologists, etc.).



# Burrowing Owl Survey Protocol



## **SECTION 2 - BURROWING OWL MITIGATION GUIDELINES**

The objective of these mitigation guidelines is to minimize impacts to burrowing owls and the resources that support viable owl populations. These guidelines are intended to provide a decision-making process that should be implemented wherever there is potential for an action or project to adversely affect burrowing owls or their resources. The process begins with a four-step survey protocol (see *Burrowing Owl Survey Protocol*) to document the presence of burrowing owl habitat, and evaluate burrowing owl use of the project site and a surrounding buffer zone. When surveys confirm occupied habitat, the mitigation measures described below are followed to minimize impacts to burrowing owls, their burrows and foraging habitat on the site. These guidelines emphasize maintaining burrowing owls and their resources in place rather than minimizing impacts through displacement of owls to an alternate site.

Mitigation actions should be carried out prior to the burrowing owl breeding season, generally from February 1 through August 31 (Thomsen 1971, Zarn 1974). The timing of nesting activity may vary with latitude and climatic conditions. Project sites and buffer zones with suitable habitat should be resurveyed to ensure no burrowing owls have occupied them in the interim period between the initial surveys and ground disturbing activity. Repeat surveys should be conducted not more than 30 days prior to initial ground disturbing activity.

### **DEFINITION OF IMPACTS**

1. Disturbance or harassment within 50 meters (approx. 160 ft.) of occupied burrows.
2. Destruction of burrows and burrow entrances. Burrows include structures such as culverts, concrete slabs and debris piles that provide shelter to burrowing owls.
3. Degradation of foraging habitat adjacent to occupied burrows.

### **GENERAL CONSIDERATIONS**

1. Occupied burrows should not be disturbed during the nesting season, from February 1 through August 31, unless the Department of Fish and Game verifies that the birds have not begun egg-laying and

incubation or that the juveniles from those burrows are foraging independently and capable of independent survival at an earlier date.

2. A minimum of 6.5 acres of foraging habitat, calculated on a 100-m (approx. 300 ft.) foraging radius around the natal burrow, should be maintained per pair (or unpaired resident single bird) contiguous with burrows occupied within the last three years (Rich 1984, Feeney 1992). Ideally, foraging habitat should be retained in a long-term conservation easement.

3. When destruction of occupied burrows is unavoidable, burrows should be enhanced (enlarged or cleared of debris) or created (by installing artificial burrows) in a ratio of 1:1 in adjacent suitable habitat that is contiguous with the foraging habitat of the affected owls.

4. If owls must be moved away from the disturbance area, passive relocation (see below) is preferable to trapping. A time period of at least one week is recommended to allow the owls to move and acclimate to alternate burrows.

5. The mitigation committee recommends monitoring the success of mitigation programs as required in Assembly Bill 3180. A monitoring plan should include mitigation success criteria and an annual report should be submitted to the California Department of Fish and Game.

## **AVOIDANCE**

### **Avoid Occupied Burrows**

No disturbance should occur within 50 m (approx. 160 ft.) of occupied burrows during the non-breeding season of September 1 through January 31 or within 75 m (approx. 250 ft.) during the breeding season of February 1 through August 31. Avoidance also requires that a minimum of 6.5 acres of foraging habitat be preserved contiguous with occupied burrow sites for each pair of breeding burrowing owls (with or without dependent young) or single unpaired resident bird.



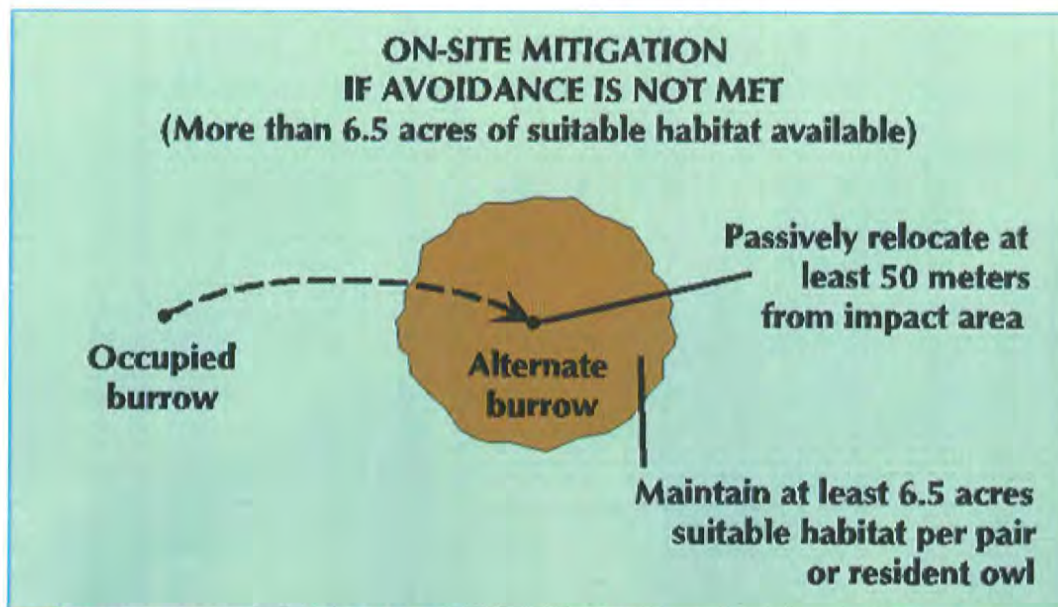


## MITIGATION FOR UNAVOIDABLE IMPACTS

### On-site Mitigation

On-site passive relocation should be implemented if the above avoidance requirements cannot be met. Passive relocation is defined as encouraging owls to move from occupied burrows to alternate natural or artificial burrows that are beyond 50 m from the impact zone and that are within or contiguous to a minimum of 6.5 acres of foraging habitat for each pair of relocated owls (Figure 3). Relocation of owls should only be implemented during the non-breeding season. On-site habitat should be preserved in a conservation easement and managed to promote burrowing owl use of the site.

Owls should be excluded from burrows in the immediate impact zone and within a 50 m (approx. 160 ft.) buffer zone by installing one-way doors in burrow entrances. One-way doors should be left in place 48 hours to insure owls have left the burrow before excavation. One alternate natural or artificial burrow should be provided for each burrow that will be excavated in the project impact zone. The project area should be monitored daily for one week to confirm owl use of alternate burrows before excavating burrows in the immediate impact zone. Whenever possible, burrows should be excavated using hand tools and refilled to prevent reoccupation. Sections of flexible plastic pipe or burlap bags should be inserted into the tunnels during excavation to maintain an escape route for any animals inside the burrow.



#### **Off-site Mitigation**

If the project will reduce suitable habitat on-site below the threshold level of 6.5 acres per relocated pair or single bird, the habitat should be replaced off-site. Off-site habitat must be suitable burrowing owl habitat, as defined in the *Burrowing Owl Survey Protocol*, and the site approved by CDFG. Land should be purchased and/or placed in a conservation easement in perpetuity and managed to maintain suitable habitat. Off-site mitigation should use one of the following ratios:

1. Replacement of occupied habitat with occupied habitat: 1.5 times 6.5 (9.75) acres per pair or single bird.
2. Replacement of occupied habitat with habitat contiguous to currently occupied habitat: 2 times 6.5 (13.0) acres per pair or single bird.
3. Replacement of occupied habitat with suitable unoccupied habitat: 3 times 6.5 (19.5) acres per pair or single bird.



## **SECTION 3 - LEGAL STATUS**

The burrowing owl is a migratory bird species protected by international treaty under the Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711). The MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 C.F.R. 21). Sections 3503, 3503.5, and 3800 of the California Department of Fish and Game Code prohibit the take, possession, or destruction of birds, their nests or eggs. Implementation of the take provisions requires that project-related disturbance at active nesting territories be reduced or eliminated during critical phases of the nesting cycle (March 1 - August 15, annually). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) or the loss of habitat upon which the birds depend is considered "taking" and is potentially punishable by fines and/or imprisonment. Such taking would also violate federal law protecting migratory birds (e.g., MBTA).

The burrowing owl is a Species of Special Concern to California because of declines of suitable habitat and both localized and statewide population declines. Guidelines for the Implementation of the California Environmental Quality Act (CEQA) provide that a species be considered as endangered or "rare" regardless of appearance on a formal list for the purposes of the CEQA (Guidelines, Section 15380, subsections b and d). The CEQA requires a mandatory findings of significance if impacts to threatened or endangered species are likely to occur (Sections 21001{c}, 21083. Guidelines 15380, 15064, 15065). Avoidance or mitigation must be presented to reduce impacts to less than significant levels.

### **CEQA AND SUBDIVISION MAP ACT**

CEQA Guidelines Section 15065 directs that a mandatory finding of significance is required for projects that have the potential to substantially degrade or reduce the habitat of, or restrict the range of a threatened or endangered species. CEQA requires agencies to implement feasible mitigation measures or feasible alternatives identified in EIR's for projects which will otherwise cause significant adverse impacts (Sections 21002, 21081, 21083; Guidelines, sections 15002, subd. (a)(3), 15021, subd. (a)(2), 15091, subd. (a).).

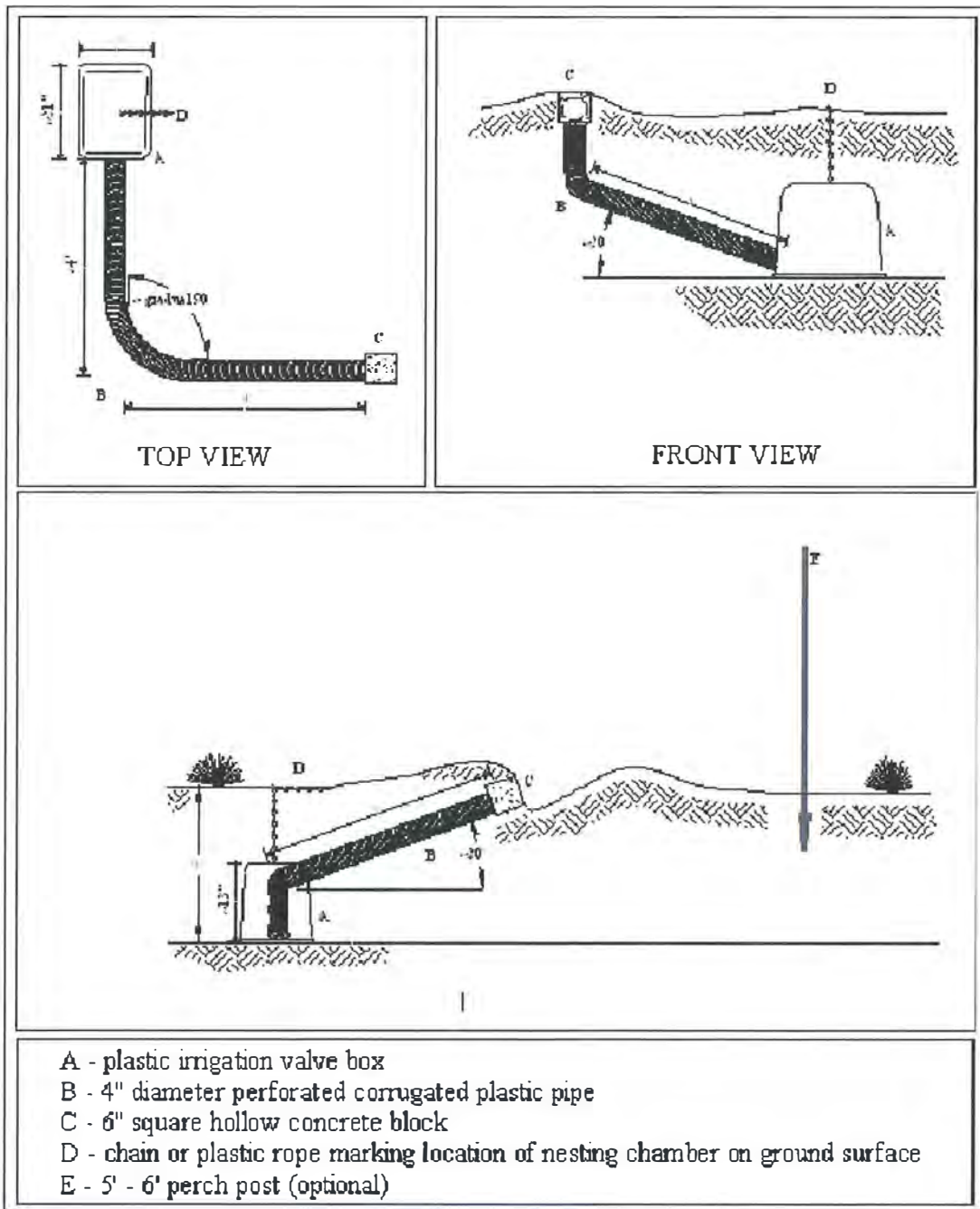
To be legally adequate, mitigation measures must be capable of "avoiding the impact altogether by not taking a certain action or parts of an action"; "minimizing impacts by limiting the degree or magnitude of the action and its implementation"; "rectifying the impact by repairing, rehabilitating or restoring the impacted environment"; "or reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action." (Guidelines, Section 15370).

Section 66474 (e) of the Subdivision Map Act states "a legislative body of a city or county shall deny approval of a tentative map or parcel map for which a tentative map was not required, if it makes any of the following findings:...(e) that the design of the subdivision or the proposed improvements are likely to cause substantial environmental damage or substantially and avoidably injure fish and wildlife or their habitat". In recent court cases, the court upheld that Section 66474(e) provides for environmental impact review separate from and independent of the requirements of CEQA (Topanga Assn. for a Scenic Community v. County of Los Angeles, 263 Cal. Rptr. 214 (1989).). The finding in Section 66474 is in addition to the requirements for the preparation of an EIR or Negative Declaration.

# **ARTIFICIAL BURROWING OWL BURROW DESIGN**

Prepared by: Albion Environmental, Inc., 1414 Soquel Avenue, No. 205


Santa Cruz, CA 95062 (831) 469-9128





Jeff Aardahl  
<jaardahl@defenders.org>  
03/12/2010 02:30 PM

To "John\_Dalton@ca.blm.gov" <John\_Dalton@ca.blm.gov>  
cc  
bcc  
Subject West Chocolate Mountains Issue Scoping

History:  This message has been forwarded.

Hi John;

Attached is our issue scoping letter on the Western Chocolate Mountains Renewable Energy Evaluation Area. Included is an attachment referred to in our letter. Both documents constitute our scoping submission. Please contact me if you have any questions about our letter. Also, could you please confirm that you received our comments?

Thanks very much for your assistance.



**Jeff Aardahl**  
California Representative

1303 J Street, Suite 270 Sacramento, CA 95814  
**Tel:** 916-313-5800 x110 | **Fax:** 916-313-5812  
[jaardahl@defenders.org](mailto:jaardahl@defenders.org) | [www.defenders.org](http://www.defenders.org)



Western Chocolate Mountains Renewable Energy Issue Scoping\_.pdf



Salton Sea Ecosystem Plan\_Chapter3\_Description\_of\_Prefered\_Alternative.pdf





California Office  
1303 J Street, Suite 270 | Sacramento, CA 95814 | tel 916.413.5800 | fax 916.413.5812  
[www.defenders.org](http://www.defenders.org)

March 12, 2010

John Dalton  
Bureau of Land Management  
California Desert District Office  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553

(Sent electronically to: [John.Dalton@ca.blm.gov](mailto:John.Dalton@ca.blm.gov); [cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov))

Re: Notice of Intent To Prepare an Environmental Impact Statement for the Proposed West Chocolate Mountains Renewable Energy Evaluation Area, Imperial County, CA, and Possible Land Use Plan Amendment [Federal Register: February 10, 2010 (Volume 75, Number 27), Pages 6698-6699]

Dear Mr. Dalton:

On behalf of Defenders of Wildlife (Defenders) and our more than 1,000,000 members and supporters in the U.S., 200,000 of which reside in California, I am writing to provide issue scoping comments to the Bureau of Land Management regarding the proposed 21,300 acre West Chocolate Mountains Renewable Energy Evaluation Area. We appreciate the opportunity to participate in the early phases of this planning and decision process, and we hope that our comments are helpful to BLM in environmental review process.

Defenders is a National conservation organization dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

In the pursuit of the generation and transmission of electrical energy in California, we support renewable energy projects that are appropriately located, environmentally sustainable, and efficient. Defenders expects all government agencies involved in the review and permitting of proposed renewable energy project will adhere strictly to the highest administrative and professional standards and reach decisions that are fully in the public interest and consistent with laws, regulations and policies regarding management of our environmental resources.

Defenders believes that renewable energy projects can be accommodated in the California Desert, but only if they are carefully designed and located in areas that avoid sacrificing what remains of our relatively intact desert landscape and its associated biological resources and values.

The project will result in a determination by BLM of how many of the 21,300 acres of public lands within the study area should be made available for renewable energy development. Such

National Headquarters  
1130 17th Street, N.W.  
Washington, D.C. 20036-4604  
tel 202.682.9400 | fax 202.682.7311



**California Office**

1303 J Street, Suite 1701 | Sacramento, CA 95814 | tel 916.443.5800 | fax 916.443.5812  
[www.defenders.org](http://www.defenders.org)

development would include geothermal, solar and wind energy facilities authorized by BLM through either leases or rights of way.

We offer the following comments by subject:

**1. Proximity to Salton Sea, Riparian Habitats and potential Salton Sea Restoration Plan Saline Habitat Complex:** North of the Wister Unit of the Imperial Wildlife Area, the evaluation area includes a portion of the Salton Sea and approximately six to seven miles of shoreline. Public lands or split estate lands that include or are adjacent to the shoreline should be excluded from development. Of particular concern along the shoreline is an estuary located between the community of Bombay Beach and the Niland Marina County Park. This estuary or riparian area is associated with drainages with surface water that support relatively dense riparian vegetation and pools of fresh and brackish water.

At the shoreline where these drainages enter the Salton Sea, habitat could support two federally listed species; the Desert Pupfish (Endangered) and the Yuma Clapper Rail (Endangered). These two imperiled species, plus hundreds of other species of birds and mammals, would frequent the habitats of the Salton Sea shoreline, the riparian estuary, and riparian habitats in several natural drainages located within the northern third of the evaluation area.

In particular, the nearshore waters between Bombay Beach and the Alamo River also are home to the endangered Desert Pupfish as they move within the Imperial Valley drains. The U.S. Fish and Wildlife Service Desert Pupfish Recovery Plan<sup>1</sup> and the Salton Sea Ecosystem Restoration Plan<sup>2</sup> have identified this area as one of the key connectivity habitats for the Desert Pupfish. The State of California reinforced the importance of this area by requiring that all saline habitat complexes within this area provide for pupfish habitat connectivity. See, Salton Sea Restoration PEIR at 3-17.

Finally, the Salton Sea Ecosystem Restoration Plan identified the shoreline and nearshore area between Bombay Beach and the Alamo River as one of the key areas for the Saline Habitat Complex, which is a key feature of the preferred restoration alternative. See, Salton Sea Ecosystem Restoration PEIR at 3-9 through 3-27; Figure 3-1 (Attached). Moreover, the California Department of Fish and Game's draft Implementation Plan for the Species Conservation Habitat Project (SCH Project) at the Salton Sea call for examining this area along with other southern shoreline areas for siting SCH Project habitat areas.

**Recommendation:** We recommend the evaluation area boundary exclude all of the high value habitats associated with the Salton Sea, Salton Sea shoreline, and any wetland or riparian habitats associated with natural drainages between Bombay Beach and the Imperial State Wildlife Area due to its importance for a number of listed and declining bird species as well as the endangered desert pupfish. For the portions of the latter that extend inland across the breadth of the evaluation area,

<sup>1</sup> U.S. Fish and Wildlife Service. 1993. Desert Pupfish Recovery Plan. Phoenix, Arizona.

<sup>2</sup> State of California. 2007. Salton Sea Ecosystem Restoration Program and Final Programmatic Environmental Impact Report. The Resources Agency, Sacramento, CA.





**California Office**

1303 J Street, Suite 270 | Sacramento, CA 95814 | tel 916.313.5800 | fax 916.313.5813  
[www.defenders.org](http://www.defenders.org)

we recommend that the riparian areas plus an effective buffer, be excluded from development. These recommendations would include public land surface and split-estate lands.

We note that within the evaluation area, BLM has already issued three geothermal leases covering approximately 3,000 acres that include portions of the high-value riparian habitats located in natural drainages inland from the Salton Sea, but which ultimately discharge into the sea east of Bombay Beach. We urge BLM to allow the public to participate in any future environmental reviews for geothermal development on these leases and to not simply rely on the BLM programmatic geothermal leasing environmental impact statement as sufficient to address resource impacts, alternatives, and mitigation measures at the site-specific level.

**2. Wister Unit, Imperial Wildlife Area:** Although it appears the evaluation area largely avoids this State wildlife area, there is a small split-estate parcel adjacent to the boundary at the northern end of the area, but located on the east side of the railroad.

**Recommendation:** BLM should consult with the California Department of Fish and Game to identify any specific issues with regard to the management of the wildlife area and its wildlife resources.

**3. BLM Acquired Lands:** Within the southern third of the evaluation area there are approximately four or five square miles (sections) of land BLM acquired from the Catellus Development Corporation. We assume these acquisitions were for conservation purposes and that the funding sources for the acquisition included the Land and Water Conservation Fund. According to our information, it is BLM policy to not allow surface disturbing activities on lands acquired for conservation purposes.

**Recommendation:** The acquisition history of these lands should be evaluated and if BLM documents show they were acquired for conservation purposes, then we recommend BLM remove them from the evaluation area.

**4. Public Lands Contiguous to the Chocolate Mountains Aerial Gunnery Range (AGR):** There are six to seven sections of public land in the southern third of the evaluation area that abut the Chocolate Mountains AGR and the lands acquired from Catellus. These are intact blocks of public lands that appear to be largely free of impacting multiple uses at this time.

**Recommendation:** These lands should be protected from surface disturbing activities. We note in general that all the public lands located north and east of the Coachella Canal are relatively undisturbed, and we recommend that the Coachella Canal be used as the boundary of the evaluation area.

**5. Compatibility of Renewable Energy Technology:** Because the Salton and the associated wildlife refuges and units attract and support millions of migratory and resident birds and bats, wind energy development within the region may not be compatible with bird and bat conservation due to

**National Headquarters**

430 17th Street, N.W.  
Washington, D.C. 20036-4604  
tel 202.682.9400 | fax 202.682.7315





**California Office**

1303 J Street, Suite 270 | Sacramento, CA 95814 | tel 916.313.5800 | fax 916.313.5812  
[www.defenders.org](http://www.defenders.org)

potential strikes from wind turbine blades during periods when these animals are active, both day and night.

**Recommendation:** BLM should carefully assess the evaluation area for the presence and abundance of bat and bird species throughout all seasons of the year and determine whether or not wind energy development is appropriate for this area.

This concludes our issue scoping comments for this evaluation effort. Please contact me if I can be of further help. I am available by telephone 916-313-5800 x110 or by email ([jaardahl@defenders.org](mailto:jaardahl@defenders.org)). Thank you for the opportunity to participate

Sincerely,

Jeff Aardahl  
California Representative

Attachment

**National Headquarters**

1130 17th Street, N.W.  
Washington, D.C. 20036-4604  
tel 202.682.9400 | fax 202.682.7311

## **CHAPTER 3**

---

### **Description of the Preferred Alternative**

## **CHAPTER 3**

### **DESCRIPTION OF THE PREFERRED ALTERNATIVE**

In accordance with the legislation, the Secretary for Resources must recommend a Preferred Alternative to the California Legislature. The Preferred Alternative was developed based upon recommendations by the Salton Sea Advisory Committee and public input on alternatives considered in the Draft Programmatic Environmental Impact Report ( Draft PEIR). This chapter describes that process and the Preferred Alternative.

#### **METHODOLOGY TO RECOMMEND THE PREFERRED ALTERNATIVE**

The Draft PEIR included an evaluation of a range of alternatives that addressed the restoration objectives. The results were compared to Existing Conditions and projected conditions for the No Action Alternative in the Draft PEIR.

Fish and Game Code Section 2081.7 requires the Resources Agency to consult with the Salton Sea Advisory Committee throughout all stages of the alternative selection process, including development of the Preferred Alternative recommendation. During the review period of the Draft PEIR and following receipt of comments from the public review, the Salton Sea Advisory Committee and the associated Working Groups conducted several meetings to discuss the benefits and impacts of the range of alternatives and define criteria for the selection of the Preferred Alternative. This process and the results are described below in the section “Salton Sea Advisory Committee Recommendations.”

#### **Summary of Alternatives Considered in Draft PEIR**

The Draft PEIR considered the No Action Alternative and eight alternatives to meet the restoration objectives established for the Salton Sea Ecosystem Restoration program.

##### **No Action Alternative**

The No Action Alternative is intended to reflect Existing Conditions plus changes that are reasonably expected to occur through 2078 if none of the alternatives are implemented. Foreseeable future projects at the Salton Sea include implementation of mitigation measures for the Quantification Settlement Agreement (QSA) and Imperial Irrigation District (IID) Water Conservation and Transfer Project. The mitigation measures related to the Salton Sea include Air Quality Management actions for exposed playa, protection of desert pupfish (including extension and connection of agricultural drains that provide desert pupfish habitat), modification of recreational facilities, and delivery of mitigation water to the Salton Sea until 2017. These facilities would be determined under a process established to implement the mitigation measures for the IID Water Conservation and Transfer Project. However, the facilities could be modified with implementation of the Salton Sea Ecosystem Restoration Program. The costs of the facilities would be funded as part of the mitigation measures for the IID Water Conservation and Transfer Project. Participants in the Water Conservation and Transfer Project would fund up to \$133 million of the mitigation measures, including measures not associated with the Salton Sea. Costs for mitigation measures in excess of the \$133 million dollars would be funded by the State of California. The Draft PEIR takes a conservative approach to define the actions and facilities projected to be needed with a capital cost of \$801 million with annual operations and maintenance costs of \$49 million.

Future actions could change the projected conditions. For example, changes in the QSA may modify the required actions and facilities or related State obligations. However, such future actions, if any, would be too speculative under the California Environmental Quality Act (CEQA). Such changes, therefore, were not included in the No Action Alternative.

## Range of Alternatives Considered in the Draft PEIR

The initial range of alternatives was broad and included options to convey water to the Salton Sea from different water bodies, convey salts from the Salton Sea to offsite disposal areas, and options to provide a range of habitats and water quality improvements within the Sea Bed. The broad range of alternatives was screened based upon the ability to meet legislative objectives for the restoration program, regulatory requirements, and technical feasibility for large-scale programs. Several options were eliminated from further analyses due to inability to meet regulatory requirements. The results of the broad screening efforts were further evaluated relative to the CEQA Guidelines for development of a reasonable range of alternatives. Based upon the screening analyses, alternatives that would convey water from the Colorado River, Gulf of California, and the Pacific Ocean were eliminated from further evaluation due to regulatory limitations; jurisdictional boundaries; and anticipated complexities associated with the acquisition, control, and access to the site for construction and operations and maintenance. The screening analysis resulted in the identification of eight alternatives.

The eight alternatives considered in the Draft PEIR were composed of several components in different arrangements. The components included Saline Habitat Complex (a series of 1,000-acre shallow ponds formed by earthen berms with salinities ranging from 20,000 to 200,000 mg/L to support a variety of fish and wildlife); Marine Sea in a portion of the Sea Bed (a large water body in a portion of the Sea Bed formed by rock barriers with marine salinity between 30,000 to 40,000 mg/L); Brine Sink (located at the lowest elevation in the Sea Bed to store excess salts, overflows from other areas, and flood flows); various conveyance facilities; water treatment for one alternative; and Air Quality Management (to reduce particulate emissions from playa that is currently under the Salton Sea the PEIR assumed the use of several methods, including salt-tolerant vegetation, brine crust, and other cover material).

The final alternatives in the Draft PEIR are listed in the following order to represent an increasing amount of complexity and number of components:

- Alternative 1 – Saline Habitat Complex I (38,000 acres of Saline Habitat Complex with minimum recirculation facilities and Air Quality Management);
- Alternative 2 – Saline Habitat Complex II (75,000 acres of Saline Habitat Complex with brine recirculation and Air Quality Management);
- Alternative 3 – Concentric Rings (61,000 acres of Marine Sea in two concentric rings, Air Quality Management, and no Saline Habitat Complex cells);
- Alternative 4 – Concentric Lakes (88,000 acres of habitat similar to Saline Habitat Complex in four concentric water bodies as defined by the Imperial Group, with dedicated inflows for Air Quality Management but no long-term facilities);
- Alternative 5 – North Sea (62,000 acres of Marine Sea in the northern Sea Bed, 45,500 acres of Saline Habitat Complex in the southern Sea Bed, and Air Quality Management);
- Alternative 6 – North Sea Combined (74,000 acres of Marine Sea in the northern, western, and southern Sea Bed; 29,000 acres of Saline Habitat Complex cells in the southern Sea Bed; and Air Quality Management);
- Alternative 7 – Combined North and South Lakes (104,000 acres of Marine Sea in the northern, western, and southern Sea Bed; 12,000 acres of Saline Habitat Complex cells in the eastern Sea Bed; water treatment of inflows and water withdrawn from the eastern portion of the northern Marine Sea; and use of Brine Stabilization for Air Quality Management at lower elevations); and

- Alternative 8 – South Sea Combined (83,000 acres of Marine Sea primarily in the southern Sea Bed with a smaller Marine Sea in the western and northern Sea Bed, 18,000 acres of Saline Habitat Complex in the southern Sea Bed, and Air Quality Management).

### **Results of the Impact Assessment**

The alternatives were evaluated in accordance with CEQA. All of the alternatives, including the No Action Alternative, included construction activities within the Sea Bed. The primary differences between the alternatives are related to the ability to:

- Support a range of biological resources (primarily related to a range of habitats that could be provided by the habitat mosaics of the Saline Habitat Complex and the Marine Seas);
- Improve water quality (primarily related to salinity, selenium, dissolved oxygen, and hydrogen sulfide);
- Minimize air quality impacts (related to emissions from construction and operations and maintenance vehicles, and particulates from exposure of currently inundated playa); and
- Minimize impacts that could occur due to Sea Bed disturbances (air quality, unexploded ordinances, release of chemicals, and disturbances of cultural and paleontological resources).

### **Salton Sea Advisory Committee Recommendations**

The Salton Sea Advisory Committee was involved in the screening and development of the alternatives and reviewed the results of the impact assessment presented in the Draft PEIR. During the preparation of the Draft PEIR, the Salton Sea Advisory Committee formed several working groups, including Habitat and Air Quality working groups, to evaluate specific issues. The Salton Sea Advisory Committee also established a Preferred Alternative Process Working Group to identify a process to compare the attributes of the Draft PEIR alternatives and define recommendations for the Preferred Alternative. The Preferred Alternative Process Working Group identified and prioritized critical attributes, identified attributes that would require further consideration during project-level analyses, and scored alternatives with respect to the prioritized attributes. These efforts were completed by the Preferred Alternative Process Working Group in conjunction with the Habitat and Air Quality working groups and a Water Quality Science Panel (Science Panel). The working groups consisted of members of the Salton Sea Advisory Committee members, or their representatives, as well as other interested individuals. The Science Panel included representatives of State and federal government agencies and several university professors who provided technical review of information considered in the Draft PEIR. Results of the evaluations considered by the Salton Sea Advisory Committee are described below.

### **Identification and Evaluation of Attributes Used for Comparison of Alternatives**

The Preferred Alternative Process Working Group considered the statutory objectives for the Salton Sea Ecosystem Restoration Program. These objectives require the Preferred Alternative to provide the maximum feasible attainment of the following objectives:

- Restoration of long term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea;
- Elimination of air quality impacts from the restoration projects; and
- Protection of water quality.

The Salton Sea Advisory Committee determined that the Preferred Alternative must at least comply with these objectives. In addition, the Preferred Alternative Process Working Group considered other attributes

identified by the public during preparation of the Draft PEIR. The legislation did not mandate that the Preferred Alternative maximize opportunities for these other attributes. However, the Preferred Alternative Process Working Group determined that the alternatives could be compared relative to the following attributes:

- Ability to provide recreation and local economic opportunities;
- Compatibility with existing and planned land uses along the shoreline of the Sea Bed;
- Changes to microclimate along the shoreline of the Sea Bed;
- Adaptability of the alternatives to changes in climate, inflows, and habitat characteristics;
- Ability to reduce Environmental Justice (fair treatment and meaningful involvement of all people) and reduce the impact of hazardous conditions; and
- Potential for visual degradation, noise disturbance, and traffic congestion during construction and operations.

Following the identification of the overall attributes, the Salton Sea Advisory Committee requested that the Habitat and Air Quality working groups consider these and further develop attributes that could be used to evaluate the alternatives based on descriptions and impact assessment results presented in the Draft PEIR. No additional analyses would be completed during this process.

### ***Habitat Working Group Recommendations***

The Habitat Working Group considered the overall attributes and the results of the habitat related impact analyses presented in the Draft PEIR. Using this information, the Habitat Working Group defined a series of habitat based attributes and compared the ability of each alternative to meet the attribute objectives. The habitat based attributes included:

- Potential for restoration of historic bird and fish diversity and abundance in 2078;
- Potential for habitat management flexibility;
- Availability of habitat over the 75-year study period;
- Potential for effects of selenium on birds and fish;
- Potential for fish kills resulting from hydrogen sulfide generation within water bodies;
- Total volume of imported rock and gravel that could affect air quality, transportation congestion, and aesthetic characteristics;
- Potential for habitat disturbance due to potential recreational opportunities;
- Extent of habitat disturbance within the currently inundated Sea Bed during construction and operations;
- Extent of disturbance to riparian habitat adjacent to the Salton Sea and special status species that use the Salton Sea during construction;
- Potential for hazardous conditions associated with the Brine Sink after reaching a salinity of 200,000 mg/L; and
- Potential for habitat disturbance due to adjacent land uses.

The group also considered other attributes that were not included in the final analysis. Some of these attributes did not provide any differentiation between alternatives. For example, each alternative would be designed to protect and support special status species, including the desert pupfish. Therefore, the attribute “Ability to support desert pupfish” was not used as a stand alone attribute in the final analysis by the Habitat Working Group, but was included in the first attribute listed above. Some attributes were not considered because adequate information was not available in the programmatic analysis, such as “Potential for wildlife disease risk.” Moving forward, additional evaluations could be conducted during project-level analyses for these types of attributes.

The Habitat Working Group used a method that combined grading and weighting to identify alternatives that provided the highest benefits for habitat. The alternatives considered to provide the highest benefits for habitat were Alternatives 1, 2, and 4 due to the presence of Saline Habitat Complex or similar habitat with a mosaic of shallow saline water bodies. Alternative 3 provided the highest level of connectivity for pupfish habitats located around the shoreline and a more shallow Marine Sea habitat than other alternatives. Alternative 5 was the highest rated alternative with a deep Marine Sea while also providing Saline Habitat Complex. However, the potential for hydrogen sulfide release in the deep Marine Sea may continue to result in fish kills as has occurred in the past at the Salton Sea. The scoring identified three distinct groupings of alternatives, which were Saline Habitat Complex (Alternatives 1, 2, and 4), shallow concentric water bodies (Alternatives 3 and 4), and deep Marine Sea with Saline Habitat Complex (Alternative 5).

The Habitat Working Group determined that the Saline Habitat Complex would provide extensive potential for historic bird diversity and abundance with the least uncertainty and risk, though fish diversity would be low. The Habitat Working Group also determined that an alternative with a Marine Sea could increase overall diversity of fish and bird species, though there is more risk due to water quality issues associated with hydrogen sulfide build up in the lower water depths. However, a deep Marine Sea with depths of less than 12 meters (39 feet) would minimize the long-term temperature stratification, in which warm surface water overlies cooler bottom water, that can lead to development and release of large amounts of hydrogen sulfide. Therefore, the Habitat Working Group determined that the best alternative might be a hybrid that combines the components from several alternatives and that habitat management flexibility would be crucial to manage for future uncertainty of biological and physical characteristics of the habitats.

### ***Air Quality Working Group Recommendations***

The Air Quality Working Group primarily compared the alternatives to the ability to comply with regulatory requirements. The air quality based attributes included:

- Ability to demonstrate conformity with applicable State Implementation Plans in accordance with the federal Clean Air Act; and
- Ability to meet particulate and nitrogen compound regulatory requirements (local significance thresholds) as developed by air quality management districts.

The Air Quality Working Group determined that most of the alternatives could not meet these requirements and would require further analyses to develop specific mitigation measures during project-level analyses. The Air Quality Working Group identified several mitigation measures such as extending the construction period to reduce annual emissions and particulates, development and use of low-emission equipment that currently is not available or under design, and identification of construction materials and methods that would reduce life-cycle air quality impacts. The Air Quality Working Group also identified the need for additional air quality monitoring around the Salton Sea; research on playa emissivity (ability of soil particles to become airborne); research on the ability of salt/brine crusts to limit playa emissivity



throughout the year, including periods with high humidity when brine crusts frequently break apart; and pilot testing of various dust control methods as the playa becomes exposed.

The Air Quality Working Group used a method that combined ranking and weighting to identify alternatives that provided the best ability to meet air quality regulatory requirements. The alternatives best meeting regulatory requirements were Alternatives 1, 2, 3, 4, and 5. These alternatives require the least amounts of imported rock and gravel, Sea Bed disturbance, and operations and maintenance activities; and therefore, would result in the least amounts of emissions.

### ***Water Quality Science Panel Recommendations***

The Salton Sea Advisory Committee also requested that the Science Panel review attributes related to water quality parameters. The Science Panel subsequently met to review attributes, determine their priority, and determine appropriate scoring for evaluating the attributes. The Science Panel considered four water quality parameters to be the most important for consideration in restoration of the Salton Sea ecosystem – selenium, hydrogen sulfide, water temperature, and dissolved oxygen.

The habitat risk from selenium (an essential element chemically related to sulfur) was considered by the Science Panel to be the most important water quality parameter affecting restoration efforts at the Salton Sea. The source of selenium in the Salton Sea is Colorado River water that has been used for irrigation on surrounding agricultural lands. In the shallow water habitats, selenium exposure routes for birds include exposure through the food web and mixing into the water column by winds. The concern for shallow water habitats is that selenium could increase over time, which would increase the potential for adverse effects to birds and may require periodic cleaning of habitat cells. The expected effects from selenium in birds would be some level of decreased hatchability of eggs in some breeding species of birds. Transitory species would not be affected because selenium is rapidly depleted in birds once they are removed from a selenium source. Effects were considered to be limited and could be mitigated. The Science Panel suggested actions to decrease potential adverse effects from selenium including avoidance of placing habitat in areas with high selenium concentrations in soils, increase habitat for those species most at risk for effects from selenium, and reduce selenium in water by diverting inflows with high selenium loads to the Brine Sink or geothermal re-injection.

Hydrogen sulfide was considered by the Science Panel to be a manageable issue, but was still weighted high in importance. Hydrogen sulfide is produced in the lower depths of the Salton Sea due to decomposition of organic matter that uses up oxygen in the water. Hydrogen sulfide produces adverse effects to fish, either directly or through effects on the food web. Therefore, both attributes were included in scoring of the alternatives. Deep sea configurations would be subject to prolonged temperature stratification which could result in periodic releases of hydrogen sulfide. The Science Panel advised that shallower sea configurations 10 to 12 meters (33 to 39 feet) deep would decrease the duration of stratification and lead to more frequent mixing of surface and bottom water, which would limit the development of hydrogen sulfide. Hydrogen sulfide levels could also be controlled to some degree with phosphorus reduction in the inflows to the Salton Sea, such as projected under proposed Total Maximum Daily Load (TMDL) limits developed in accordance with the Clean Water Act. However, existing sediments on the Sea Bed would continue to contribute phosphorus for some period of time. Due to limited data available, it was not possible for the Science Panel to determine the period of time that would be needed for phosphorus contributions from the sediments to be reduced, with subsequent reductions in hydrogen sulfide.

Water temperature was considered moderate in importance, but only for certain fish species, such as tilapia, in shallow water habitats. Deeper lakes would usually stay warm enough in winter to support tilapia due to the large mass of water that would retain heat. However, as observed at the Salton Sea in early 2007, even a large lake can occasionally experience fish kills during unusually cold weather. Temperature effects in shallow water habitats were considered important due to the limited diversity of

fish that would be present. If only tilapia are present, cold weather could decimate the population, and birds dependent on that population (such as pelicans in winter) would be adversely affected.

Issues for dissolved oxygen include diurnal (daily) fluctuations in shallow water habitats due primarily to photosynthesis and respiration of algae, and seasonal levels due to temperature stratification in deep water habitats. Dissolved oxygen was not a high priority for the Science Panel since control of other water quality parameters (primarily hydrogen sulfide and nutrients) would resolve the dissolved oxygen issue.

Greater concern for effects from selenium and hydrogen sulfide than for the other water quality parameters resulted in the Science Panel determining that alternatives comprised of shallow water habitat posed the least adverse water quality impacts. Mitigation strategies of maintaining depths of less than 12 meters (39 feet) and nutrient control for inflows were identified to significantly improve the water quality in the Marine Sea.

### ***Overall Preferred Alternative Process Working Group Recommendations***

The Preferred Alternative Process Working Group reviewed the recommendations of the other working groups and Science Panel and also considered other attributes not related to biological resources, air quality, and water quality. Overall, this working group determined that most of the potential impacts identified in the Draft PEIR could be reduced through mitigation measures developed during project-level analyses. However, it was recognized that many of the impacts may not be reduced to levels of less than significant in a CEQA analysis.

The Preferred Alternative Process Working Group also determined that due to the programmatic nature of the Draft PEIR, some details would need to be further defined and evaluated as a range of options during the project-level analyses. For example, recreation and local economic opportunities could be incorporated into any alternatives; however, the nature of the opportunities could be different. It was also determined that Early Start Habitat (2,000 acres of a pilot-type Saline Habitat Complex to be located near the southern shoreline) and Saline Habitat Complex-type of habitat should be included in the Preferred Alternative. However, the purpose of this working group was to define the process for determining a preferred alternative and provide some guidance to the Salton Sea Advisory Committee. Therefore, no specific recommendations for a Preferred Alternative were prepared by the Preferred Alternative Process Working Group.

### **Salton Sea Advisory Committee Recommendations on February 27, 2007**

The results of the working group evaluations were considered by the Salton Sea Advisory Committee on February 27, 2007. Based upon this information and discussion that occurred at the meeting, the Advisory Committee recommended that the Preferred Alternative include:

- Saline Habitat Complex and Marine Sea habitat (as in Alternative 5);
- Early Start Habitat (as in all alternatives);
- Methods to protect air quality with conservative methods such as irrigated salt-tolerant vegetation (as in Alternatives 1, 2, 3, 5, 6, and 8); and
- Methods to protect water quality to improve habitat and reduce odors, including limiting the depth of the water bodies to less than 12 meters (39 feet) (as in Alternative 3).

The Advisory Committee compared these attributes to the alternatives and determined that Alternative 5 provided these attributes to a larger extent than other alternatives. However, Alternative 5 could not be recommended without incorporation of the following components that were evaluated as part of other PEIR alternatives:

- Expanded areas of the Marine Sea adjacent to existing communities as well as the State Recreation Area (as in Alternative 3); and
- Expanded Saline Habitat Complex areas (as in Alternative 2).

### **Salton Sea Advisory Committee Recommendations on March 27, 2007**

On March 27, 2007, the Preferred Alternative proposal was presented to the Salton Sea Advisory Committee. This proposal included a Marine Sea formed by a barrier with water depths of less than 12 meters (39 feet). The Marine Sea shoreline was located at -230 feet msl, while the barrier was located at the -270-foot and -260-foot contours to provide water adjacent to existing communities and recreational areas. The Saline Habitat Complex was expanded along the southern Sea Bed from -230 feet to -266 feet msl contours.

Members of the Advisory Committee provided comments related to the need to provide a portion of the Saline Habitat Complex in the northern Sea Bed near the confluence of the Whitewater River, moving the Marine Sea Barrier to a deeper location to provide a larger Marine Sea, providing a Marine Sea area near the southern shoreline for increased recreational opportunities, and providing access for geothermal generation development. Some of the Advisory Committee members also discussed the use of water treatment for the inflows to improve water quality in a deeper Marine Sea.

Recommendations related to incorporation of the Saline Habitat Complex near the Whitewater River confluence, expanding the Marine Sea near the southern shoreline, and providing access for geothermal generation development were incorporated into the Preferred Alternative. However, moving the Marine Sea Barrier to a deeper location was not included in the Preferred Alternative due to a potential of water quality problems that could result in adverse impacts. All of the alternatives in the Draft PEIR and the Preferred Alternative assumed that water quality in the inflows would be improved through implementation of Total Maximum Daily Loads as would be implemented by the Colorado River Basin Regional Water Quality Control Board in the near future. However, water quality problems could continue to occur due to high concentrations of nutrients and selenium in the sediments. Water treatment to reduce these constituents in the Sea Bed sediments has not been demonstrated at the scale of the Salton Sea. As described above, maintaining water depths of less than 12 meters would improve mixing of the water column and reduce the potential for water quality problems in the Marine Sea. For these reasons, the recommendations of some Salton Sea Advisory Committee members to provide a Marine Sea deeper than 12 meters with or without water treatment was not included in the Preferred Alternative.

### **Consideration of Comments on the Draft PEIR**

Nearly 34,000 comment letters on the Draft PEIR were submitted by agencies, Torres Martinez Tribe, interest groups, and individuals. Many of the letters were developed by interest groups and submitted by individuals. Most of the comments were related to biological resources, climate and air quality, recreation, and use of the Salton Sea as an agricultural repository and a recreation area. Many comments encouraged development of a Preferred Alternative that would be adaptable to changes in inflows, climate, land uses, and habitat needs.

With respect to biological resources, most of the comments requested the inclusion of a small Marine Sea in the northern Sea Bed, at least 25,000 to 50,000 acres of Saline Habitat Complex in the southern Sea Bed, Early Start Habitat, and methods to reduce water quality problems in all water bodies.

Most of the comments concerning air quality encouraged the use of a variety of methods to reduce air quality problems, implementation of research activities to develop methods that would reduce particulates from the playa, and use of water to protect agricultural microclimates and prevent salt dust on lands adjacent to the southern shoreline.

Many comments included reminders that Executive Orders over 80 years ago established the Salton Sea as an agricultural repository for drainage, and that the alternatives could not modify this use.

There were also many comments that identified the need to maintain water near shoreline communities and the State Recreation Area, to incorporate the proposed land use plans for the Torres Martinez Reservation, and to include recreational opportunities into the alternatives. There was discussion of establishing the shoreline water elevation at -228 feet msl to reduce the need for Air Quality Management methods by landowners of the exposed playa.

### **Most Cost-Effective, Technically Feasible Alternative**

Fish and Game Code Section 2081.7 states that the evaluation of alternatives in the Salton Sea Ecosystem Restoration Study shall include “at least one most cost-effective, technically feasible, alternative.” This section describes the most cost-effective, technically feasible alternative and the criteria for selecting this alternative. This information has been included in the ecosystem restoration study pursuant to Fish and Game Code Section 2081.7. For the purpose of this analysis, the term “most cost-effective” was defined as least cost because quantifying monetary benefits of restoration would be difficult at the current programmatic level of analysis. All of the alternatives are technically feasible.

The State determined, based on the evaluation of the eight alternatives, that two of the alternatives meet the most cost-effective, technically feasible alternative criteria, Alternative 2 (Saline Habitat Complex II) and Alternative 5 (North Sea). These alternatives were identified from among the other alternatives, all of which meet the program’s legislative mandate of providing the maximum feasible attainment of the following objectives: (1) restoration of long-term stable aquatic and shoreline habitat for the historic levels and diversity of fish and wildlife that depend on the Salton Sea; (2) elimination of air quality impacts from the restoration projects; and (3) protection of water quality.”

As part of the process to determine the Preferred Alternative, the Salton Sea Advisory Committee’s Habitat Working Group determined that the Saline Habitat Complex was the component that provided the most ecosystem benefits. The Saline Habitat Complex provided diversity of fish and wildlife similar to existing conditions. However, a Marine Sea could provide greater diversity of fish and wildlife similar to historical conditions. The Salton Sea Advisory Committee’s Air Quality Working Group determined that meeting the legislation’s air quality objectives was a high priority.

Based on this information, Alternative 2 was identified as the most cost-effective, technically feasible alternative because it include the largest amount of Saline Habitat Complex. The Saline Habitat Complex would provide similar diversity of fish and wildlife that currently exists at the Salton Sea. Alternative 2 would achieve this to a greater extent than Alternative 1. Additionally, Alternative 2 would be the most cost-effective alternative that best meets all of the legislative objectives. Although the construction and operations and maintenance costs of Alternative 4 as analyzed in the Draft PEIR would be less than those of Alternative 2, additional air quality measures would need to be added to Alternative 4 to fully meet the legislative objectives. This would increase the costs of Alternative 4, and therefore, Alternative 4 would likely be more costly than Alternative 2. Alternatives 3, 5, 6, 7, and 8 meet the legislative objectives to varying degrees, but are not as cost-effective.

Although Alternative 2 would provide diversity of fish and wildlife similar to those that currently exist at the Salton Sea, Alternative 2 may not fully meet the legislative objective “historic levels and diversity of fish and wildlife” because it does not contain a marine waterbody as has historically existed at the Salton Sea. The most cost-effective, technically feasible alternative that best meets this objective is Alternative 5. Alternative 5 includes a Marine Sea that would provide habitat for a diverse fishery that would support fish-eating birds. Alternative 5 is the most cost-effective of the alternatives that include a Marine Sea. Due to water quality impacts identified in the Draft PEIR (including the potential for hydrogen sulfide generation), the Marine Sea depth in Alternative 5 may need to be reduced to less than 13 meters.

While the most cost-effective, technically feasible alternatives were identified during development of the Preferred Alternative, the most cost-effective, technically feasible alternatives were not selected as the Preferred Alternative. The selection criteria for the Preferred Alternative not only included the legislative objectives, but also included additional criteria based on input from the Salton Sea Advisory Committee and public. These criteria included providing Saline Habitat Complex and Marine Sea habitat along the northern shoreline, a Marine Sea area near existing communities and recreational areas, a Marine Sea along the southern shoreline for recreation, and areas for geothermal generation development.

## **PREFERRED ALTERNATIVE**

Information in the Draft PEIR and comments received from the public review of the alternatives described in the Draft PEIR were evaluated to develop a Preferred Alternative.

As described above, many of the recommendations described by the Salton Sea Advisory Committee members, other agencies, interest groups, stakeholders, and the public were incorporated into the Preferred Alternative. Several of the comments were not incorporated due to reasons as described above and in Chapters 4 through 9.

The Preferred Alternative is most similar to Alternative 5 with components described in the other alternatives. A description of the components, estimated costs, and implementation methods are described below.

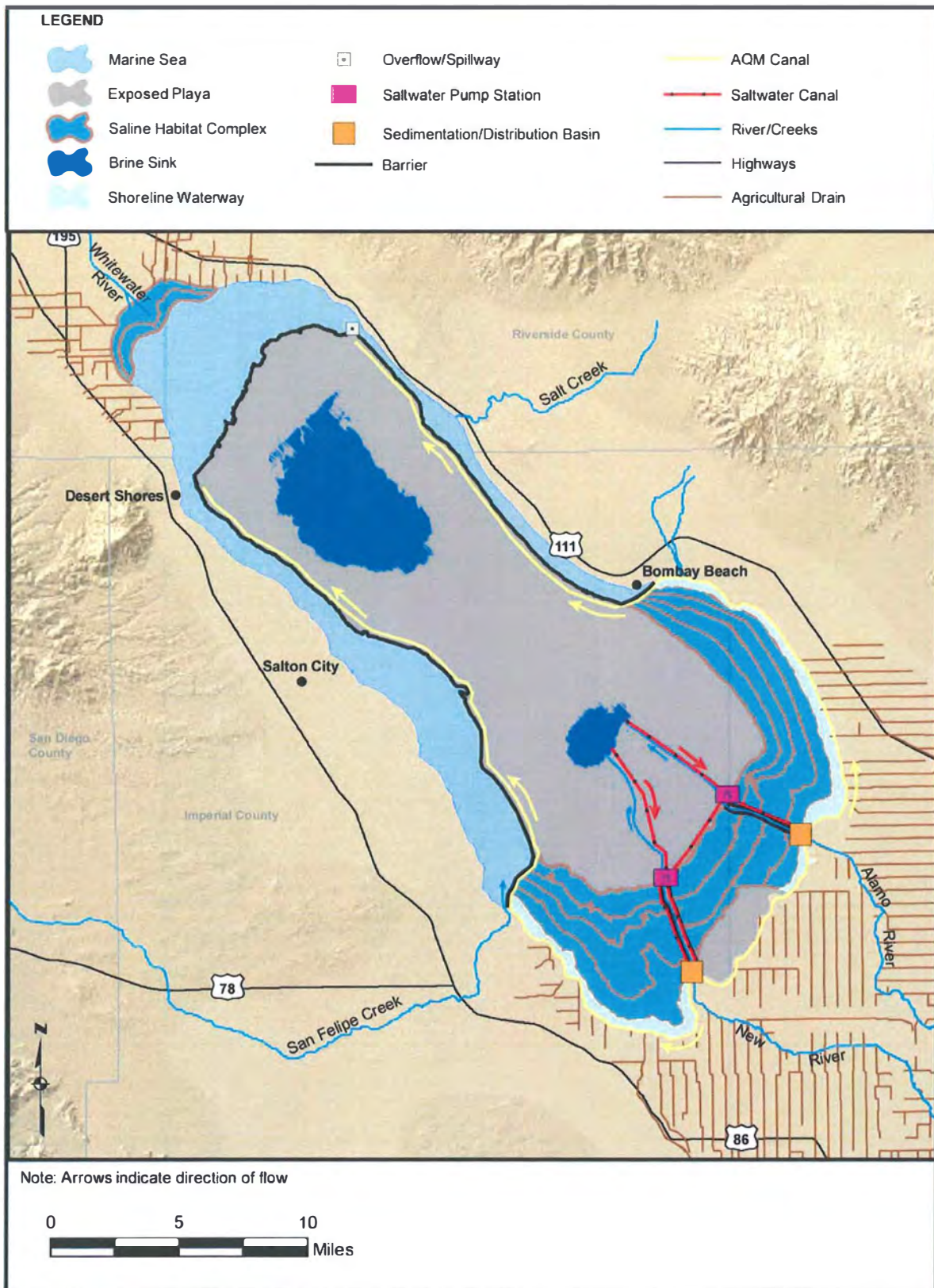
### **Components of the Preferred Alternative**

The Preferred Alternative, as shown in Figure 3-1, includes Saline Habitat Complex in the northern and southern Sea Bed, a Marine Sea that extends from San Felipe Creek to Bombay Beach (formed by barriers located at elevations from -260 to -270 feet msl), Air Quality Management facilities to reduce particulate emissions from the exposed playa, Brine Sink for discharge of salts, conveyance facilities, and Sedimentation/Distribution facilities. The Preferred Alternative also would include Early Start Habitat and an exclusion area for geothermal development. These components are summarized in Table 3-1 and described below.

### **Inflow Assumptions in the Preferred Alternative**

The Preferred Alternative was based upon the same assumptions used for all alternatives in the Draft PEIR, including inflows. Inflows into the Salton Sea are influenced by multiple factors, including drainage flows from Imperial and Coachella valleys, flows from Mexico, and precipitation. Historically, inflows have exceeded 1.2 million acre-feet/year. A portion of these inflows are projected to be reduced after 2017 due to the IID Water Conservation and Transfer program. IID is providing additional inflows as a mitigation measure to maintain the salinity at less than 60,000 mg/L until 2017 which is when the salinity was projected to exceed this concentration without the transfer.

As described in the Draft PEIR, inflows may also decline because of water recycling in Mexico, changes in agricultural practices to meet projected Total Maximum Daily Loads, and changes to municipal wastewater disposal practices to meet discharge regulations. These types of changes have occurred in other areas of California. In addition, global climate change models are predicting an increase in evaporation rates which could further reduce inflows and increase evaporation from the Salton Sea, Saline Habitat Complex, or Brine Sink. Therefore, the Draft PEIR included risk-based analyses of inflows considering the various water sources. The results of the analyses identified the average annual inflow for the period 2018 through 2078 (the period after IID ceases to divert mitigation water) as 717,000 acre-feet. This value was used to compare the operations of the Draft PEIR alternatives and is used to define operations parameters for the Preferred Alternative.



**FIGURE 3-1**  
**PREFERRED ALTERNATIVE**

**Table 3-1**  
**Comparison of Infrastructure Features in the Preferred Alternative**

	End of Phase I (2020)	End of Phase II (2030)	End of Phase III (2040)	End of Phase IV (2078)
Saline Habitat Complex (acres)	7,000	32,000	52,000	62,000
Saline Habitat Complex (wetted acres - including Shoreline Waterways)	7,000	39,000	46,000	46,000
Saline Habitat Complex Berms (miles)	20	117	158	158
Marine Sea (total acres)	Under construction	45,000	45,000	45,000
Marine Sea (salinity)	Not applicable	30,000 to 40,000	30,000 to 40,000	30,000 to 40,000
Marine Sea Barrier (miles)	Under construction	52	52	52
Two Sedimentation/Distribution Basins (acres)	400	400	400	400
Exposed Playa (acres - including Geothermal Area)	20,000	32,000	106,000	106,000
Air Quality Management area with water efficient vegetation (acres)	Monitoring and testing	17,000	54,000	54,000
Air Quality Management area with stabilization methods (acres)	Monitoring and testing	6,000	21,000	21,000
Air Quality Management Conveyance	36 miles of canals and 3 pumping plants	75 miles of canals and 5 pumping plants	75 miles of canals and 5 pumping plants	75 miles of canals and 5 pumping plants
Brine Sink Salinity (mg/L)	77,000	more than 200,000	more than 200,000	more than 200,000
Brine Sink Elevation (feet msl)	-240.6	-267.4	-275.6	-275.6
Brine Sink Area (acres)	200,000	109,000	17,000	17,000
Volume of imported rock and gravel (cubic yards)	182,861,000	187,703,000	190,234,000	190,234,000
Volume of Sea Bed soils excavated or dredged (cubic yards)	23,245,000	91,765,000	105,843,000	105,843,000
Trucks to import rock and gravel per day during peak construction period	3,000	100	50	0
Employees per day during operations and maintenance	20	150	300	300
Energy demand during operations and maintenance (Gigawatt-hour/year)	4	13	26	26



Water quality of the inflows is assumed to be improved as compared to Existing Conditions due to complete implementation of existing and proposed TMDL requirements established by the Colorado River Basin Regional Water Quality Control Board.

If the average annual flow value (717,000 acre-feet) was used for the “design flow,” the Marine Sea would not receive adequate inflows in about half of the years in the 2018 through 2078 period. Therefore, the “design flow” criteria were based upon adequate inflows in at least 80 percent of the years in the 2018 through 2078 period. This average annual “design flow” is 650,000 acre-feet for the 2018 through 2078 period. When inflows exceed 650,000 acre-feet/year, flows not used in the Saline Habitat Complex, Air Quality Management of exposed playa with irrigated vegetation, and Marine Sea could be used to establish salt crust or additional temporary habitat on other portions of the exposed playa.

### **Location and Sizing of the Components**

The location and sizing of several components were based upon specific criteria and in consideration of available inflows. For example, the location and size of the Marine Sea was based upon criteria to provide water along shorelines in existing communities and minimize water quality risk.

Saline Habitat Complex was located along the southern shoreline due to the proximity of the area with wildlife refuges, agricultural fields, and areas historically supporting large numbers of birds. However, the specific size of the Saline Habitat Complex was based upon the long-term availability of inflows.

The sizes of the Brine Sink and the exposed playa were based upon inflows and the balancing of water demands. The first and second priorities for use of inflows (based on two of the primary objectives of the Salton Sea Ecosystem Restoration Legislation), would be for habitat associated with the Saline Habitat Complex and Air Quality Management, respectively. The last priority would be for the Marine Sea. Therefore, if inflows decline to levels less than the “design flow,” only the inflows to the Marine Sea would be reduced.

A design surface water elevation of -230 feet mean sea level (msl) was assumed for all components along the shoreline. This elevation was selected to allow construction of canals at the elevations of -228 and -230 feet msl to avoid the need to modify existing shoreline land uses and facilities. The elevation of the Marine Sea in the northern Sea Bed was located at -230 feet msl to reduce pumping requirements for the flows from the New and Alamo rivers. During project-level analyses, the actual elevations would be defined based upon final topographic and bathymetric survey results and detailed hydrologic analyses. It may be feasible to extend the Saline Habitat Complex along the northern shoreline to elevations -228 feet msl if the inflows for the first row of the northern Saline Habitat Complex only depended upon flows from the Whitewater River.

### **Saline Habitat Complex**

The Saline Habitat Complex is intended to provide a diversity of habitats to support food web organisms (e.g., invertebrates and fish), that will provide an avian forage base similar to that which developed at the Salton Sea. Berms, islands, peninsulas, and snags would contribute to use by a variety of shorebirds and wading birds. Excavated areas up to 15 feet in depth would be incorporated to increase habitat diversity and provide shelter for fish and invertebrates.

Salinity within the Saline Habitat Complex could range from near 20,000 mg/L to 200,000 mg/L. Maintaining most of the Saline Habitat Complex with saline water (greater than 20,000 mg/L) would reduce vegetation growth, selenium ecorisk, and vector populations. The water supply would be from the New, Alamo, and Whitewater rivers plus water recycled from the Brine Sink or upgradient Saline Habitat Complex cells to achieve a minimum salinity of 20,000 mg/L.

The first rows of the southern Saline Habitat Complex that will extend from the shoreline (at -230 feet msl) to the first Berm (at -236 feet msl) would not be divided into ponds. This area would serve as a

mixing zone for the inflows and saline water and would be maintained at a salinity of 20,000 to 30,000 mg/L. Berms would be used in the remaining rows of the Saline Habitat Complex to provide multiple 1,000-acre cells.

Berms would be constructed of suitable earthfill materials excavated from the Sea Bed with 3:1 side slopes. A 20-foot wide gravel road on top of each Berm would allow access for maintenance. Rock slope protection would be placed on the water side of the Berm. Water depths would be less than 6 feet (2 meters). Berms could not be constructed until the Brine Sink (residual Salton Sea) recedes to an elevation below the Berm location.

The design of the individual cells within the Saline Habitat Complex would be flexible and could be modified to respond to environmental changes or the results of performance monitoring. The characteristics that would vary among cells likely would include salinity, overall water depth of the cell, presence or absence of islands and deep pools, number and arrangement of roosting and nesting structures, amount of shoreline, presence or absence of hard substrates, and bottom slope. The ratio of water to land, salinity, and arrangement of the cells would be developed in project-level analyses.

Immediately following construction, saline water from the Brine Sink would be conveyed through temporary pumping facilities into the first row of Saline Habitat Complex cells. The saline water would be mixed with the drain flows to provide salinity of at least 20,000 mg/L. After this initial mixing, salinity in each cell would be managed by controlling inflows and outflows, and evapo-concentrating the water in each cell to create cells with salinities ranging from 20,000 to 200,000 mg/L. During operations of the Saline Habitat Complex, water quality monitoring would need to be conducted to determine if constituents of concern accumulated to concentrations that would cause adverse impacts to fish and wildlife that used these areas.

### **Early Start Habitat**

The Preferred Alternative would include up to 2,000 acres of shallow saline habitat for use by birds after the Salton Sea salinity becomes too high to sustain some species of fish. This habitat would be created prior to construction of full-scale habitat components, and is referred to as Early Start Habitat. Early Start Habitat was assumed to be located at elevations between -228 and -232 feet msl and could either be a permanent or temporary feature to be eliminated or assimilated as other components are constructed.

For the purposes of the Preferred Alternative, it was assumed that the Early Start Habitat area would be located along the southern shoreline because the flat slope of the Sea Bed would provide a large area for shallow water cells. The area is currently used by many birds. Most agricultural drains in this area are pumped into the Salton Sea and could provide a stable source of inflows into the Early Start Habitat. Saline water from the Salton Sea would be pumped into the cells to be mixed with freshwater from the drains to provide salinity between 20,000 and 60,000 mg/L.

The area would be divided into cells with Berms excavated from on-site materials. Average water depths within each cell would be less than four feet, although deep holes located away from the Berms may extend to 15-foot depths. Specific design and testing criteria would be developed in a project-level analysis.

### **Marine Sea**

A Marine Sea would be formed through the construction of a Barrier. The Marine Sea would eventually stabilize at a surface water elevation of -230 feet msl with a salinity between 30,000 mg/L and 40,000 mg/L. Salinity in the Marine Sea would be managed through regulation of inflows and discharges. Air Quality Management Canals, Sedimentation/Distribution Basins, and Early Start Habitat would be constructed between the -228 and -230 foot msl contours and would avoid conflicts with existing land uses along the shoreline.

Inflows to the Marine Sea would include direct flows from the Whitewater River, Coachella Valley drains, Salt Creek, San Felipe Creek, and local drainages. Flows from the New and Alamo rivers would be blended in a large Air Quality Management Canal and diverted into the Saline Habitat Complex and the southeastern and southwestern portions of Marine Sea. The portion of the Air Quality Management Canal located between the Sedimentation/Distribution Basins and Marine Sea would be located along the shoreline of the Saline Habitat Complex and would be siphoned under major drainages and agricultural drains to ensure that existing drainages are not impacted and that connectivity is provided for desert pupfish between the drains and the Shoreline Waterway. Air Quality Management Canals would continue on the interior side of the Barrier where the Marine Sea is located. Flows from the Marine Sea would be spilled to the Brine Sink to maintain salinity and elevation control.

The water depth would be less than 12 meters (39 feet) to reduce the potential for hydrogen sulfide generation and potential fish kills, due to long-term temperature stratification. The Preferred Alternative assumes implementation of the proposed TMDLs for nutrients and selenium, and therefore, additional water treatment for inflows would not be required. However, there is insufficient information to determine the role that nutrients contained in sediments will have in continued production of hydrogen sulfide in the Marine Sea. Therefore, the Preferred Alternative is based upon a conservative approach that maintains water depth to less than 12 meters (39 feet). During project-level analyses, additional data should be collected and the maximum water depth should be re-evaluated prior to final design.

The Barrier would be constructed of rock with a seepage barrier on the upstream face. The Barrier would be up to 47 feet above the existing Sea Bed and up to a half-mile wide at the base. The final slope of the Barrier would be 10:1 on the Marine Sea side and 15:1 on the down gradient side. The structure would require compliance with DWR, Division of Safety of Dams regulations. For the purposes of the PEIR, it was assumed that the Barrier would be constructed using barges. Therefore, the Barrier would need to be constructed before the Brine Sink (residual Salton Sea) recedes. Rock used to form the Barrier could be delivered to the barges by a railroad trestle or at a harbor that could be used for Marine Sea access after construction. However, use of barges would result in extensive vehicle emissions, as described in the Draft PEIR. It may be more advantageous to construct a trestle that would be extended with construction of the barrier and could accommodate alternative fuel trucks to deliver rock to the barrier construction site. This could lead to lower air quality emissions and allow construction even if the Brine Sink water recedes. During project-level analyses, specific construction methods need to be evaluated to provide a cost-effective construction approach and to reduce construction impacts.

### **Sedimentation/Distribution Basins**

Inflows from the New and Alamo rivers would be captured in two 200-acre Sedimentation/Distribution Basins to divert desilted river water into one of several Air Quality Management Canals or bypass flows into the Brine Sink through extension of the New and Alamo river channels. The unlined Sedimentation/Distribution Basins would be excavated along the shoreline and would be located from -228 to -230 feet msl. Water depths would be about 6 feet. Sediment collected in the basins would be periodically dredged and flushed into the Brine Sink through river extensions.

### **Air Quality Management**

Prior to design of Air Quality Management facilities, monitoring and testing activities would be conducted to identify the potential for and rate of dust emissions, determine chemical characteristics of the playa, analyze response of salt crusts and sediments to humidity and wind. If potential for significant dust emissions occur, several actions could be implemented to reduce air quality problems. It is anticipated a combination of actions would be used because the playa characteristics may vary throughout the Sea Bed. For the purposes of the PEIR and the Preferred Alternative, the following assumptions were used to define Air Quality Management components:

- 30 percent of the total exposed playa would be non-emissive and require no actions;
- 20 percent of the exposed playa would use management options that do not require freshwater supplies, such as brine stabilization, sand fences, or chemical stabilizers; and
- 50 percent of the exposed playa would use water efficient vegetation that is irrigated with a portion of the inflows to the Salton Sea.

The conservative approach for control of dust emissions would use Air Quality Management Canals to convey water from the Sedimentation/Distribution Basins to a series of 2-square mile units on the exposed playa. Each 2-square mile unit would include water filtration and chemical treatment units to prevent clogging and scale in the irrigation system, pumps, and buried distribution and drip irrigation pipes. The drip irrigators would be buried to reduce potential for selenium toxicity to wildlife from ponded water. Facilities would be included in each unit to pump brine from the Brine Sink to the treatment unit to increase the salinity of the water to 10,000 mg/L, if needed. Drains would be constructed under the irrigated area and drainage water would be conveyed to the Brine Sink. Construction of the irrigation system would require excavations up to 8 feet deep for trenches throughout the exposed playa. Salt bush, or similar vegetation, would be planted every 5 feet apart in rows that would be separated by 10 feet.

### **Brine Sink**

The Brine Sink would provide the repository necessary to store excess salts, water discharged from the Saline Habitat Complex, Marine Sea, and Air Quality Management areas, and excess inflows. Flood flows from the New and Alamo rivers would flow directly into the Brine Sink through extensions of the river channels. High flows from San Felipe and Salt creeks and Whitewater River (via a submerged pipeline) would flow into the Marine Sea and overflow through a spillway into the Brine Sink. The elevation would fluctuate seasonally based upon the patterns of these tributary flows.

During project-level analyses, partitioning of the Brine Sink could be considered to provide another area with salinities of less than 200,000 mg/L that could support invertebrates and provide additional habitat on the Sea Bed.

### **Desert Pupfish Connectivity**

Desert pupfish connectivity would be provided in four separate areas. The shoreline waterways (first rows of the southern Saline Habitat Complex) would provide connectivity for the Imperial Valley drains between Bombay Beach and to Alamo River and between New River and an area located to the south of San Felipe Creek.

The first row of the northern Saline Habitat Complex would provide connectivity for a portion of the drains in Riverside County. The Marine Sea would provide connectivity for the remaining drains in Riverside County and San Felipe and Salt creeks.

### **Area for Geothermal Development**

Imperial County has one of the larger known geothermal resource areas in the world, including lands near the southern shoreline of the Salton Sea. Several geothermal generation facilities have been constructed on the upland side of the shoreline. Field investigations have indicated that additional generation facilities could be successfully constructed in currently inundated areas of the Sea Bed after the water recedes.

One of the areas that may include significant geothermal resources is located between the New and Alamo rivers along the southern shoreline. A portion of this area is located within the Sonny Bono Salton Sea National Wildlife Refuge, and most of the area is used extensively by many species of birds. Placement of Saline Habitat Complex and geothermal development in this area could require very specific

mitigation measures to avoid conflicts with geothermal facilities, including power transmission lines and other facilities.

Geothermal development will be extremely important in California and other southwestern states as part of a mosaic of energy sources to meet increasing energy demands. Therefore, the Preferred Alternative includes an area between the New and Alamo rivers without Saline Habitat Complex to reduce potential conflicts between geothermal development and habitat criteria. The geothermal development area would avoid the Sonny Bono Salton Sea National Wildlife Refuge lands and areas with pupfish connectivity in the drains. The Preferred Alternative includes Air Quality Management actions for the geothermal development area; however, specific Air Quality Management methods may be different for the industrial land uses.

### **Land Ownership Assumptions**

The Preferred Alternative assumes that easements or deeds would be obtained for the entire Sea Bed below elevation -228 feet msl to allow construction and operations and maintenance activities. Costs of acquisition of easements and deeds are not included in the PEIR cost estimates.

If other land uses extend into the Sea Bed, the Preferred Alternative would need to be modified in project-level analyses. For example, if exposed lands are converted to cultivated agriculture to an elevation of -235 feet msl, either the components would need to be constructed at lower elevations or displacement dikes would be required to protect the agricultural land.

### **Implementing Entities Assumptions**

The Preferred Alternative has been defined and evaluated as if one entity or group of entities implemented the program in a uniform manner. However, it would be possible for several entities to implement facilities under separate programs with some level of coordination. For example, facilities located in the northern and southern area of the Sea Bed could be implemented by separate entities with coordinated operations for conveyance of inflows. As another example, separate entities could implement components with different functions, such as conveyance, Air Quality Management, Marine Seas, and/or Saline Habitat Complex.

### **Construction Materials Assumptions**

Design criteria for the Barrier would require extensive geotechnical investigations. Most of the existing geotechnical foundation information was collected near the mid-sea location and may not be applicable to final Barrier locations. Once geotechnical data are collected, the Barrier design concept would be refined. Changes in cross sections or materials could significantly change rockfill quantities, excavation quantities, and costs. Similarly, foundation treatment, if required, could change costs and construction methods.

For purposes of the PEIR, development of new rock sources or transportation facilities are not considered part of the Preferred Alternative. The Preferred Alternative assumption is that the Barrier design would use rock or boulders between 1 to 5 feet in diameter for the majority of the structure for stability. This rock size was not found to be available in large quantities at existing quarries during the preparation of this PEIR. However, the Preferred Alternative assumption is that this rock would be provided from a permitted quarry and transported to within 10 miles of the shoreline by methods other than trucks.

The Preferred Alternative includes gravel roads on top of all Barriers and Berms and approximately every mile in both north-south and east-west directions across the exposed playa. Therefore, an extensive amount of gravel would be required for the Preferred Alternative.

## **Implementation Schedule**

Implementation of the Preferred Alternative would be accomplished in four periods:

- Period I: Five Year Plan/Pre-construction - 2008 to 2013;
- Period II: Major Construction - 2014 to 2025;
- Period III: Construction Completion - 2026 to 2035; and
- Period IV: Operations and Maintenance - 2036 to 2078.

Activities that would occur in each of these periods are summarized below.

### **Period I: Five Year Plan/Pre-construction - 2008 to 2014**

It is anticipated that the California Legislature would select the Preferred Alternative, provide authorization for the next periods, and appropriate funds by late 2007. Following these actions, it is anticipated that the implementing entity(ies) would initiate a Five Year Plan including project-level analyses. Many issues could not be fully evaluated in the programmatic analysis due to lack of data or the need to select specific locations for facilities. Therefore, the Five Year Plan would focus on implementation of the Early Start Habitat, collection of additional biological and physical data, site-specific analyses of facilities, and design of facilities.

#### ***Demonstration Project and Early Start Habitat***

The U.S. Department of the Interior, Geological Survey (USGS), is currently conducting a Salton Sea Shallow Water Habitat Pilot Project. This project includes several shallow ponds containing small islands within an approximately 100 acre area. The ponds do not incorporate deep holes or snags.

DFG is currently developing a Demonstration Project near the southeastern shoreline of the Salton Sea. This demonstration project would include ponds with deep holes, islands, and snags. Information from the Demonstration Project could be used to develop the final design criteria for the Saline Habitat Complex. Prior to construction of the Demonstration Project, environmental documentation and design documents would be prepared and permits would be acquired.

There is concern that water quality in the Salton Sea will degrade prior to and during construction of the Preferred Alternative and that fish and birds that forage on fish could be lost. Therefore, an Early Start Habitat of up to 2,000 acres of Saline Habitat Complex emphasizing cell configurations that will support fish would be constructed. This would provide both habitat during construction and allow further full-scale pilot evaluation of this habitat prior to final design.

Prior to construction of the Early Start Habitat, an evaluation of potential sites would be conducted. If necessary, several sites may be identified for site-specific field investigations. Geotechnical analyses, topographic and bathymetric surveys, and sediment and water quality analyses would also be completed. Removal of sediment with high concentrations of contaminants may be considered to protect water quality and habitat values. These evaluations could require 12 to 18 months to define seasonal variations.

Following these analyses, preliminary design would be initiated for the Berms and conveyance facilities to divert inflows into the Early Start Habitat ponds, manage salinity in the ponds, and divert water from the ponds without adverse impacts to fish in the Early Start Habitat ponds or desert pupfish. Concurrently, an environmental document would be prepared. This process could require about 6 months.

Final design would be completed and permits would be obtained from federal, state, and local agencies. The final design could include several types of Berms, such as the use of Geotube® Berms or other facilities which could change construction schedule assumptions. The final design and permitting processes could require up to 12 months. After permits are approved, construction could occur in less



than 6 months. Based upon this estimated timeline, the Early Start Habitat would be fully implemented by 2011.

### ***Biological Investigations in the First Five Years***

In addition to the field investigations and monitoring associated with the Early Start Habitat, existing biological monitoring in the Salton Sea would be expanded. Additional monitoring of breeding and roosting sites, invertebrates, and fish and bird populations may be conducted. Pilot studies would be conducted to investigate temperature and salinity tolerances for various fish species and methods to reduce impacts on fish and birds during construction of the Preferred Alternative.

### ***Inflows, Water Quality, and Sediment Quality Investigations in the First Five Years***

The PEIR analysis was based upon available inflow data collected through 2004. However, inflows have changed significantly since 2004 and will continue to change. For example, up to 200,000 acre-feet of flows in the New River from Mexico may be eliminated. Changes in farming practices due to new regulatory requirements may either reduce flows or change flow patterns into the Salton Sea. Therefore, additional data should be evaluated using hydrologic and hydraulic models to improve the reliability of inflow projections.

An extensive sediment and water quality monitoring program for nutrients, selenium, ammonia, hydrogen sulfide, and hazardous constituents would be conducted to define characteristics and seasonal and annual variations at locations of the Saline Habitat Complex, Marine Sea, and exposed playa. Water quality analyses in the Salton Sea also should include evaluation of the potential for release of hydrogen sulfide and ammonia based upon water and sediment chemistry. These data would be used to further develop analytical models to project characteristics during construction and operations and maintenance. These efforts would be coordinated with other monitoring programs established by regulatory agencies. Based upon these data and associated modeling, locations of habitat facilities may be modified from those identified for the Preferred Alternative.

### ***Air Quality Investigations in the First Five Years***

The air quality actions would be integrated with the efforts by other agencies in the Imperial and Coachella valleys. Additional air quality monitoring stations (up to 20 stations) would be installed to improve the understanding of wind patterns and background constituent concentrations along the entire Salton Sea shoreline and surrounding valley area. Monitoring stations also could be established close to the ground to define the effect of the Salton Sea on the microclimate on adjacent lands.

As the Salton Sea recedes, the exposed playa would be tested for chemical constituents and emissivity. It is feasible that exposed playa characteristics would vary with geography and elevation. Investigations would be conducted to determine the amount of salt and dust accumulated on nearby crops and the potential impacts on the crops.

### ***Geotechnical Investigations and Surveys in the First Five Years***

Geotechnical investigations and topographic and bathymetric surveys would be conducted over the entire Sea Bed with specific focus at the identified locations of Barriers, Berms, canals, and Air Quality Management facilities. Based upon the results of these investigations, structural design criteria and construction material requirements would be defined, including needs for excavated soils in the Sea Bed and imported rock and gravel. As part of this effort, detailed analyses of rock and gravel quarries would be conducted to identify sources of rock of appropriate sizes and chemical composition to withstand high salinity conditions. Pilot studies for Barrier and Berm designs could be completed in portions of the Salton Sea or in the Early Start Habitat area. If adequate construction materials are not available, the final designs would need to be modified.

Several previous studies, as described in the PEIR, identified the potential for unexploded ordinances and hazardous materials in the Sea Bed. Site-specific investigations would be completed.

### ***Construction Methods and Materials Investigations Within the First Five Years***

The PEIR analysis is based upon conventional construction methods and construction materials. However, due to concerns about global warming, new equipment and technologies are being developed. Therefore, an evaluation of available and potentially innovative construction techniques that minimize vehicle and industrial emissions and greenhouse gases would be conducted. Alternative construction methods for the Barrier could range from considerations of extended railroad sidings, harbors, or use of trestles to provide flexibility during construction and potentially reduce emissions from the use of barges. In addition, pilot studies would be performed to identify materials and methods that could withstand the high salinity conditions and minimize operations and maintenance activities. Many of these pilot studies would be conducted as part of the Early Start Habitat efforts described above.

### ***Coordination with Torres Martinez Tribe***

The Torres Martinez Reservation is located along the northern shoreline and extends into the Salton Sea. The Torres Martinez Tribe is currently preparing a new General Plan and associated documents. During this period, significant coordination efforts would be conducted to integrate the new plans with the Preferred Alternative. Site access agreements also would be negotiated to allow construction and operations and maintenance of the Preferred Alternative on tribal lands.

### ***Access and Utility Agreements***

Access agreements, either land deeds or easements, would be required for currently inundated land under the Salton Sea between the -228 foot and -230 foot msl contours for access facilities, Sedimentation/Distribution Basins, and corridors for roads and electrical distribution facilities. Specific locations for geothermal generation facility exclusion areas would be evaluated. Utility agreements would be negotiated with IID for electrical service, communications services, and potable water service for operations and maintenance buildings.

### ***Project-Level Environmental Documentation and Final Design***

Information collected during the investigations described above would be compiled into a preliminary design report that would consider a range of locations, sizes, and construction methods for facilities in the Preferred Alternative. Environmental documentation would be completed concurrently with preparation of the preliminary design report. The environmental documentation would further evaluate benefits and impacts of specific facilities during construction and operations and maintenance, as well as identify mitigation measures to reduce the effects of impacts. The Draft PEIR included "Next Steps" that should be considered during project-level analyses to reduce risks and potential adverse impacts. The Next Steps are summarized in Table 3-2.

Following the adoption of the environmental documentation, final design would be completed and plans and specifications would be prepared for bidding.

### ***Bidding Period***

It is anticipated that due to the unique nature of the design, construction methods, and site conditions, the bidding period and bid-checking period could require up to 12 months prior to initiation of construction. It is anticipated that multiple bid packages would be prepared. Therefore, portions of the construction could occur prior to other portions.

**Table 3-2**  
**Next Steps to be Considered during Project-Level Analyses**

<b>Resources</b>	<b>Items that should be considered during project-level analyses</b>
Surface Water Resources	Best Management Practices to reduce erosion and polluted runoff during construction and operations and maintenance in accordance with the Stormwater National Pollutant Discharge Elimination System permit.
	Inflow investigations of volumes and flow patterns to determine specific locations of facilities and measures to protect against flood events or increases in future inflows.
	Seiche analyses to define surface water elevation of the Brine Sink and Marine Sea that would avoid inundation of lands above the design surface water elevation.
Surface Water Quality	Water, sludge, and sediment analyses of constituents that could adversely affect benefits of the Brine Sink. If adverse impacts occur, the materials should be hauled to a certified disposal site.
	Water quality and sediment assessments to determine specific locations for facilities and understand nutrient and chlorophyll a dynamics, external/internal source contributions, timing and extent of the Salton Sea response to load reductions, effectiveness of water quality improvements in the watershed, effectiveness of Sedimentation /Distribution Basins to remove constituents, and real-time temperatures. Sediment quality monitoring to understand sediment resuspension, sediment release, nutrient sequestration, and sediment oxygen demand.
	Pilot studies of shallow water cells on recently exposed Sea Bed to determine the rate of nutrient fluxes to the water column and other biological parameters that may be different on the Sea Bed materials as compared to pilot studies being conducted on lands adjacent to the Sea Bed.
	Multi-dimensional hydrodynamic and water quality model, with coupled sediment pool, for the Salton Sea that could be used, in tandem with monitoring efforts, to provide more detailed analysis of specific facility locations and methods to reduce internal nutrient loads.
	Habitat design criteria to maximize full mixing in the water column, such as orientation of islands parallel to the prevailing winds or orientation of the open water to take advantage of wind fields; and determine depth of Saline Habitat Complex pools to balance temperatures and water quality.
	Construction methods to limit the potential to re-suspend bottom sediments.
Groundwater Resources	Groundwater changes under the Coachella Valley Water District Water Management Plan evaluated to determine if surface water elevations adjacent to the Indio Subbasin of the Coachella Valley Basin should be designed to reduce further saltwater intrusion.
	Best Management Practices to protect groundwater during construction and operations and maintenance activities in accordance with a Stormwater Pollution Prevention Plan.
Biological Resources	Biological field investigations to determine specific locations of fish and wildlife resources; and develop specific biological impact avoidance criteria, including construction techniques, schedules, and facility locations. Potential mitigation measures could include methods to avoid disturbance of: breeding or roosting special status birds by scheduling the construction or maintenance activities near those habitats outside the breeding season and times of large roosting aggregations, or creation of similar habitats; desert pupfish during construction by conducting pre-construction surveys, capture and relocation of desert pupfish in the work area, scheduling work to avoid breeding season, and isolating the work area so that desert pupfish cannot enter; or consider a genetic exchange plan.
	Adaptive management program and monitoring program.
	Pilot projects to understand colonization of Saline Habitat Complex by invertebrates, fish, and birds; efficacy of the installation of snags, islands and other resting/loafing areas in managed habitats; need and methods for incorporating areas of freshwater within Saline Habitat Complex to accommodate the requirements of breeding birds and their young; and ratio of wet to dry areas.
	Maintenance plan for the Sedimentation/Distribution Basins that minimizes dredging in wetlands.
	Desert pupfish connectivity methods to link San Felipe and Salt creeks and the agricultural drains, including piping river channels to the Brine Sink.

**Table 3-2**  
**Next Steps to be Considered during Project-Level Analyses**

<b>Resources</b>	<b>Items that should be considered during project-level analyses</b>
	Methods for gravity and pumped diversions to avoid or minimize impacts to desert pupfish;
	Characterize the distribution of selenium in the sediments and co-located biota, and water to refine predictions of selenium risk and develop criteria to minimize selenium uptake in the food web.
	Recreational criteria to protect special status resources.
Geology, Soils, Faults, Seismicity, and Mineral Resources	Geotechnical investigations to determine specific geologic and soil characteristics; and develop design criteria consistent with the California Building Code to minimize the risk of damage and prevent injury or death during construction and operations and maintenance. Facilities or excavation activities located to avoid unstable soils, volcanic activity, or mineral resources.
	Range of materials and facility locations to minimize the need for mineral resources. For example, use of synthetic sheet piling may reduce the need for rock in shallower sections of the Barrier, although this could increase the need for petroleum products.
Climate and Air Quality Resources	Best available control measures and most stringent measures as required by the Imperial County Air Pollution Control District and South Coast Air Quality Management District .
	Methods other than haul trucks to deliver materials, such as trains or conveyors, watering soils during construction, pave or apply chemical stabilizers to roads on construction sites.
	Fugitive dust investigations for construction activities to estimate emissions, exposure assessment, and potential impacts on adjacent agricultural and community land uses.
	Emissions investigations for Exposed Playa areas to determine the amount and composition of the fugitive dust emitted from playa and the conditions that result in stable versus emissive conditions.
	Compliance with general conformity with the applicable State Implementation Plans through mitigation or other accepted practices.
	Odorous emissions investigations linked to the surface water and sediment quality investigations reduce odorous air emissions associated with off-gasing and fish die-offs.
	Microclimatic conditions investigations to determine effects of the facilities on agricultural lands adjacent to the Salton Sea.
Land Use	Facility locations and construction methods to reduce the impacts to existing land uses, including the conversion of agricultural lands, including Farmlands of Statewide Importance.
	Facility locations to minimize exposure of currently inundated Torres Martinez Tribal lands.
Population and Housing	Coordination with local construction organizations to maximize opportunities for local workers and minimize potential housing impacts due to out-of-area construction workers.
Recreation	Coordination with local communities to incorporate appropriate recreational opportunities.
Hazards, Hazardous Waste, and Public Health	Hazards investigations to locate undocumented, residual hazardous wastes.
	Best Management Practices guidelines for on-site storage and use of fuels and other potentially harmful materials and training of construction personnel.
	Public access prohibited on the construction sites if hazards exist.
	Staging and construction areas with hazardous materials located away from public areas.
	Coordinate with U.S. Navy that recommended additional investigations at the Salton Sea Naval Test Base to survey and remove or detonate in place any detected ordnance if land use changes occurred, such as construction of major facilities or development. Additional investigations should be conducted throughout the Sea Bed that could be disturbed during construction.
	Sediment investigations and monitoring programs to reduce the risk of exposure to constituents that could be released during soil disturbance. Worker training programs and breathing apparatus would be provided for all workers during construction.
	Sediment investigations to determine risks to workers and public due to unstable soils and geothermal conditions.
	Monitoring programs could be considered in coordination with public outreach programs to minimize potential risks associated with consumption of fish and wildlife tissue with high selenium.

**Table 3-2**  
**Next Steps to be Considered during Project-Level Analyses**

<b>Resources</b>	<b>Items that should be considered during project-level analyses</b>
	Coordinate with Coachella Valley Mosquito and Vector Control District BioControl Facility (Indio, California) to identify and reduce hazards due to mosquitos and vectors.
Cultural Resources	Investigations in accordance with Section 106 of the National Historic Preservation Act and implementing regulations under 36 CFR 800, as amended, including a pedestrian cultural resources survey of exposed lands as the Salton Sea recedes by a qualified archaeologist.
	Testing and Evaluation Plan to evaluate identified archaeological sites, and if feasible, avoid disturbance, or develop a Data Recovery Plan.
	Construction Monitoring and Treatment Plan to ensure that new sub-surface discoveries are adequately recorded, evaluated, and, if significant, mitigated. If human remains encountered, consultation with the most likely Native American descendant, the Office of Historic Preservation, and the counties of Imperial or Riverside coroners. Discovered sites should be properly recorded with the appropriate California Historic Resource Information System office.
	Construction specifications, to the extent feasible, should require all Sea Bed disturbances to be monitored by a qualified archaeologist and a Native American representative.
	Construction worker training to recognize and report any discoveries of cultural resources and prohibited activities, such as the unauthorized collection of artifacts.
Paleontological Resources	Paleontological Resources Monitoring and Recovery Plan for all disturbances, including methods to: confirm the paleontological sensitivity (high, moderate, or low) of the areas to be impacted through review of project-level geological and geotechnical data; determine the qualifications of the paleontologist; assess and recover discovered fossil resources; and establish a monitoring program during and after construction.
Noise Resources	Noise investigation to identify Existing Conditions and potential changes due to construction and operations and maintenance activities at sensitive receptors due to noise and vibrations.
	Construction methods and materials to reduce noise and vibration impacts, including use of hydraulically or electrically powered impact tools or exhaust mufflers; manufacturer's standard noise control devices; locate stationary equipment and components as far as possible from noise sensitive receptors; minimize idling of construction equipment; use acoustic barriers, phase construction times; and notify nearby property users during construction periods.
Aesthetic Resources	Design criteria to minimize visual impacts, including methods to camouflage large facilities with vegetation or use of textures and color to blend into the environment.
	Non-glare lighting with on-demand switching, where possible.
Public Services and Utilities	Traffic plans and emergency response plans for construction to reduce the risks, such as worker training programs, required private security and fire protection at construction sites, or fee schedules for construction permits to include funds for emergency services.
	Solid waste facilities fee schedules to promote recycling and minimize solid wastes. It may be necessary to mandate hauling of solid wastes to landfill sites located outside of the study area. Hazardous waste site would need to be hauled to certified landfills.
	Solar generation plans for facilities to minimize electrical generation requirements and need for construction of electrical transmission and distribution lines in habitat areas.
Traffic and Transportation Resources	Traffic study to minimize construction impacts on roadways, including: extend railroad sidings and/or conveyors to the shoreline or trestles to construction sites; carpooling for workers; stagger start-stop times of shifts and haul times; use flagpersons; maintain emergency access at all times; and establish appropriate parking areas at construction and facility sites.
Power Production and Energy Resources	Energy savings measures and alternative energy sources, such as electric equipment and vehicles, and solar power.
	Transmission and distribution lines and related facilities that cannot be replaced by solar power should be located to avoid/reduce significant environmental impacts.
	Coordinate with geothermal industry to establish locations of power generation and transmission facilities in coordination with the habitat and air quality management facilities.

## **Period II: Major Construction - 2014 to 2025**

Construction phasing of the Preferred Alternative would be determined by water elevations in the Salton Sea. Under concepts evaluated in the PEIR, construction of the Berms for Saline Habitat Complex could not occur until the water recedes in the area where the Berm would be constructed. Construction of the Barrier may be more appropriately completed while the water in the Brine sink (residual Salton Sea) is deep enough to support barges.

Initial construction activities would most likely include Sedimentation/Distribution Basins, Air Quality Management Canals along the shoreline, harbors or other construction staging areas, trestles or other delivery systems for constructing the Barriers. The Air Quality Management Canals also would convey water to the Marine Sea from the New and Alamo rivers. The construction period for the Barrier would be limited by design criteria, availability of construction materials each year, and the ability to transport construction materials to the Salton Sea without causing major traffic impacts in the area.

The construction period for the Barrier in the Preferred Alternative is projected to extend from 2014 until early 2022. Based upon the inflow projections, the Marine Sea salinity would be over 80,000 mg/L and the surface water elevation would be -248 feet msl at the time the Barrier would be closed. Marine Sea salinity would be less than 40,000 mg/L and the surface water elevation would be at -230 feet msl within 15 months of the completion of the Barrier.

As the water recedes, Saline Habitat Complex Berms would be constructed. Based upon the Preferred Alternative layout and the associated inflow projections, Berms located at -236 feet msl could be constructed after 2018 after the surface water elevation recedes to -238 feet msl. This area would be the Shoreline Waterway and would be used to distribute water to other portions of the Saline Habitat Complex and provide connectivity for the desert pupfish. The next Berms would be located at -242 and -248 feet msl and could be constructed in 2022 and 2024, respectively. Salinity goals in the Saline Habitat Complex could be achieved within months following completion of the Berms.

If the geothermal facilities are not constructed in this period, the exposed playa in the geothermal area would be monitored and pilot studies would be conducted to determine the most cost-effective method to control particulate emissions. Air Quality Management facilities would be constructed in this Major Construction Period, if needed.

Operations and maintenance activities would begin towards the end of this period and include periodic inspections for facility conditions and safety; repairing or replenishing Berms for seepage, erosion, and settlement; repairing roads with rock addition; repairing water conveyance facilities in the Saline Habitat Complex, and Air Quality Management Canals and facilities; dredging of Saline Habitat Complex holes to maintain depths; vegetation and vector control; and repairing and replacing of conveyance pumps.

## **Period III: Construction Completion - 2026 to 2035**

After 2025, inflows are projected to recede rapidly due to changes in irrigation practices and elimination of inflows from Mexico. Saline Habitat Complex Berms would continue to be constructed. The Berms at -254, -260, and -266 feet msl would be constructed in 2026, 2028, and 2033, respectively, as shown in Table 1. The exposed playa would be monitored and pilot studies would be conducted to determine the most cost-effective method to control particulate emissions. Air Quality Management Canals on the Sea Bed would be constructed as the water recedes below -260 feet msl. It is anticipated that the playa would be fully exposed by 2035. However, construction may continue after 2035 as results from the emission monitoring programs and pilot studies are completed. The PEIR assumes that the Air Quality Management facilities are completely constructed by 2035.



Operations and maintenance activities would continue as described for the Major Construction Period. In addition, operations and maintenance activities would begin for the Air Quality Management and Marine Sea facilities. These activities would include periodic inspections for facility conditions and safety; repairing or replenishing Barriers as well as Berms for seepage, erosion, and settlement; continued repairing of roads with rock addition; repairing water conveyance facilities in the Saline Habitat Complex, Air Quality Management Canals and facilities, and Marine Sea outlets; continued dredging of Saline Habitat Complex holes; continued vegetation and vector control; repairing and replacing of conveyance pumps and Air Quality Management pumps, filters, and treatment facilities; and replacement of chemicals used in Air Quality Management facilities. It is anticipated that the Air Quality Management drip irrigation system will require daily maintenance to reduce fouling and plugging. Security patrols also would occur on a daily basis.

#### Period IV: Operations and Maintenance - 2036 to 2078

Operations and maintenance activities would continue as described above throughout this period and beyond. It is anticipated that the inflow conditions assumed for the Preferred Alternative would continue after 2078. Although the IID Water Conservation and Transfer Program is only authorized until 2078 (assuming renewal in 2048), most of the inflow reductions projected for the Salton Sea are not related to the water transfer and would not change by 2078. If the water transfer is not renewed in 2078, the additional inflows may be used to expand the Saline Habitat Complex following additional evaluations or convert a portion of the Brine Sink to useable habitat.

### Estimated Construction Cost

Based upon assumptions described in the Draft PEIR, cost estimates for construction and operations and maintenance at build-out were developed for the Preferred Alternative, as shown in Table 3-3.

**Table 3-3**  
**Estimated Capital and Operations and Maintenance Costs For Preferred Alternative**  
**(In Million Dollars, 2006 Dollars)**

Items	Capital Cost	Annual Operations and Maintenance Cost at Build-out
Barriers	\$3,991	\$27
Saline Habitat Complex (including Early Start Habitat)	\$758	\$10
Water Conveyance	\$168	\$6
Air Quality Management	\$891	\$99
Subtotal	\$5,808	\$142
Additional Miscellaneous Items at 5% of Subtotal Above	\$290	—
Total Construction Cost	\$6,098	—
Contingencies at 30% of Total Construction Cost	\$1,830	—
Subtotal	\$7,928	—
Engineering, Administration, and Legal at 12% of Subtotal Above	\$951	—
<b>Total Capital Costs</b>	<b>\$8,879</b>	<b>\$142</b>

Note: Costs do not include cost of Demonstration Project (\$6.6 million), investigations in addition to pre-design efforts and administration prior to construction (\$19.3 million), permits, land or easement acquisition (estimated at \$10 million for Early Start Habitat), and interest on borrowing funds.

The estimated cash flow estimate is presented in Table 3-4 based upon the assumptions described above.

**Table 3-4**  
**Estimated Cash Flow for the Preferred Alternative**  
**(In Million Dollars, 2006 Dollars)**

	2008- 2013	2014- 2020	2020- 2030	2030- 2040	2040- 2078
Costs for pre-design, design, environmental documentation, permitting, and bidding for construction through 2025	\$395.8				
Costs for other investigations, Demonstration Project, Early Start Habitat, \$10 million for Early Start Habitat easement/land, and administration until construction	\$113.1				
Construction; construction management; administration during construction; and pre-design, design, environmental documentation, permitting, and bidding for construction from 2025 through 2035	0	\$5,930.3	\$1,324.0	\$1,153.1	0
<b>Total Capital Costs</b>	<b>\$508.90</b>	<b>\$5,930.3</b>	<b>\$1,324.0</b>	<b>\$1,153.1</b>	<b>0</b>
Annual Operation and Maintenance Cost	\$0.7	\$0.7	\$70.9	\$141.9	\$141.9

Note: Costs do not include permits, land or easement acquisition (except Early Start Habitat), or interest on borrowing funds.



Terry Weiner  
<terryweiner@sbcglobal.net>  
03/19/2010 11:06 AM

To John Dalton <john\_dalton@ca.blm.gov>  
cc  
bcc  
Subject West Chocolate Mts. Scoping comments

Hi John,

I just sent you some comments on behalf of the Desert Protective Council but the email address on the Fact Sheet and in the Federal Register notice (cawestchocolate@ca.blm.gov) bounced back at me. I am going to forward the notice of failure to you.

Thanks and have a good weekend.

Terry Weiner  
Desert Protective Council



Terry Weiner  
<[terryweiner@sbcglobal.net](mailto:terryweiner@sbcglobal.net)>  
03/19/2010 11:06 AM

To John Dalton <[john\\_Dalton@ca.blm.gov](mailto:john_Dalton@ca.blm.gov)>  
cc  
bcc  
Subject Fwd: DELIVERY FAILURE: User cawestchocolate  
([cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov)) not listed in Domino  
Directory

Begin forwarded message:

**From:** [Postmaster@blm.gov](mailto:Postmaster@blm.gov)  
**Date:** March 19, 2010 11:03:19 AM PDT  
**To:** Terry Weiner <[terryweiner@sbcglobal.net](mailto:terryweiner@sbcglobal.net)>  
**Subject:** DELIVERY FAILURE: User cawestchocolate ([cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov)) not listed in Domino Directory

Your message

Subject: Scoping Comments on the West Chocolate Mts. Renewable Energy Evaluation  
Area NOP of an EIS

was not delivered to:

[cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov)

because:

User cawestchocolate ([cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov)) not listed in Domino Directory

Reporting-MTA: dns;ILMNIRM3AP61.blm.doi.net

Final-Recipient: rfc822;cawestchocolate@ca.blm.gov

Action: failed

Status: 5.1.1

Diagnostic-Code: X-Notes; User cawestchocolate ([cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov)) not listed in Domino Directory

**From:** Terry Weiner <[terryweiner@sbcglobal.net](mailto:terryweiner@sbcglobal.net)>  
**Date:** March 19, 2010 11:03:19 AM PDT  
**To:** John Dalton <[john\\_dalton@ca.blm.gov](mailto:john_dalton@ca.blm.gov)>  
**Cc:** [cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov), Daniel Steward <[Daniel\\_Steward@ca.blm.gov](mailto:Daniel_Steward@ca.blm.gov)>  
**Subject:** Scoping Comments on the West Chocolate Mts. Renewable Energy  
Evaluation Area NOP of an EIS

Desert Protective Council  
P.O. Box 3635  
San Diego, CA 92163

Bureau of Land Management  
[California Desert District](#)  
22835 Calle San Juan De Los Lagos  
Moreno Valley, CA 92553  
Attention: Mr. John Dalton, West Chocolate Coordinator

March 19, 2010

Dear Mr. Dalton

Thank you for the opportunity to register scoping comments on issues that need to be addressed in the EIS for the West Chocolates Renewable Energy Evaluation Area.

The Desert Protective Council is concerned about the integrity of the eastern Imperial County desert ecosystem as part of the health of the entire California Desert Ecosystem. Any disturbance of the land from solar, wind or geothermal development in the West Chocolate Mts. area described in Federal Register Notice Vol. 75. No. 27, February 10 2010 must be looked at in the context of cumulative impacts from other industrial energy developments existing or planned in the California desert. The fabric of the fragile California desert is being strained and torn and risks shredding from the plethora of large projects being planned.

Please include a complete analysis of impacts to the soil from each possible proposed energy development project.

There must be a comprehensive review of the habitat of the entire area and analysis of the impacts of ground disturbance on the plant and mammal inhabitants of the area. Please address the fact that animals need not only the habitat they occupy, but corridors or connections to other habitat.

Climate change models must be taken into account. Dr. Cameron Barrows is in the process of important research on the effects of different climate change scenarios on the movement of desert flora and fauna. This and similar research and climate change models for the southwest desert in the upcoming 100 years needs to be considered in all of our planning for the future health of the desert. Additionally, ground disturbance releases carbon into the atmosphere as well as reducing or eliminating the soil's ability to absorb carbon, thereby contributing in two ways to the atmospheric load of carbon.

Imperial County continues to be an impaired air basin. Air quality impacts from all possible development scenarios need to be addressed in the EIS and must be considered in conjunction with the predicted release of particulates from the shrinking shores of the Salton Sea and other existing sources of particulate and other transient air pollution sources such as ORV activity in the Algodones Dunes and from farm equipment and other vehicles on unpaved roads in the area.

Impacts specifically to the habitat of the endangered Desert Tortoise and to the Flat-Tailed Horned Lizard (FTHL), a special status species currently being considered for listing as threatened, must be considered. Cumulative impacts to the desert tortoise and the FTHL from

potential and actual habitat loss in other parts of their California desert range must be considered.

Loss of access to our public lands from these proposed developments must be considered, including impacts to recreation, hiking, camping, birding, hunting, rock-hounding, etc. These impacts must be addressed in the context of the predicted continuing increase of population in California and particularly in Riverside and San Bernardino and Imperial Counties.

Impacts to local roads and traffic during development of projects must be considered.

Industrial-scale energy projects always impact the wild character of an area. Unspoiled, uncluttered vistas are becoming scarcer in the California desert. Unspoiled view sheds are part of our national natural heritage and the impacts of loss of them in the California desert need to be considered. They are important to the health of the national psyche and tradition.

Impacts from construction and/or expansion of transmission infrastructure in relation to renewable energy development must be considered. Transmission infrastructure is part of the footprint from all energy projects.

Thank you for including consideration of these brief comments from the Desert Protective Council. Please keep us on the mailing list for all meetings, documents and deadlines for the Imperial County, CA West Chocolate Mts. Renewable Energy Evaluation and EIS.

Sincerely,

Terry Weiner  
Imperial County Projects and Conservation Coordinator  
(619) 342-5524  
[terryweiner@sbcglobal.net](mailto:terryweiner@sbcglobal.net)  
[www.dpcinc.org](http://www.dpcinc.org)  
[www.desertblog.net](http://www.desertblog.net)





**Bureau of Land Management  
Public Scoping Meeting  
West Chocolate Mountains  
Renewable Energy Evaluation  
Area EIS  
Calipatria, CA  
March 4, 2010**

Note: Before including your address, telephone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment, including your personal identifying information, may be made publicly available at any time. While you may ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. All submissions from individuals identifying themselves as representatives or officials of organizations or businesses will be made available for public inspection in their entirety.

**COMMENTS**

Thank you for participating in tonight's Public Scoping Meeting on the  
West Chocolate Mountains Renewable Energy Evaluation Area EIS

Your comments on the scope and focus of the environmental review are encouraged.

Name (please print legibly): Jamie Hall  
Affiliation (if applicable): The Wildlands Conservancy  
Phone: 760.369.7105 Email: Jamie.H@twc-ca.org  
Mailing Address: 51010 Pipes Canyon Rd.  
City, State, Zip: Pioneertown, CA 92268

**COMMENTS:**

I work as Conservation Specialist for the Wildlands Conservancy, a private non-profit conservation organization based in Oakesen, CA w/ preserves in both the low and high deserts. We have the dual mission to preserve and protect the beauty and biodiversity of the earth by acquiring strategic pieces of land for habitat conservation & by providing free outdoor education to the youth. All of our preserves are self-sufficient & are run off of solar PV systems. We are highly supportive of renewable energy development.

Turn in Comments during this meeting or

Send comments to: BLM California Desert District Office, Attn: John Dalton, West Chocolate Area Coordinator,  
22835 Calle San Juan De Los Lagos, CA 92553 or by e-mail at [cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov)



## COMMENTS (Continued)

in an effort to reduce our carbon footprint & dependence on fossil fuels for energy production. We acquired over 600,000 acres of former railroad "Cattellus" lands in the California Desert (this is the largest land acquisition project in US History; i.e. the Cattellus Land Acquisition).

2,866 acres of these former cattellus lands are in Imperial County within the ~~the~~ West Chocolate Mtns Renewable Energy Evaluation Area. We are in favor of exploring geothermal resources in these areas of land for renewable energy development.

The Wildlands Conservancy owns the mineral (thus geothermal) rights to these sections of land & would entertain leaving them for geothermal exploration. We are very interested to learn of what projects are being proposed in this eval. area; and their size i.e. MW megawatt capacity. Also, what is the timeline of both proposed projects & projects already in queue? There are several private projects also proposed in Imperial Co. & we urge you to consider their influence in reaching RE goals. Also, what is the process for project recruitment for this area?

Turn in Comments during this meeting or

Send comments to: BLM California Desert District Office, Attn: John Dalton, West Chocolate Area Coordinator,  
22835 Calle San Juan De Los Lagos, CA 92553 or by e-mail at [cawestchocolate@ca.blm.gov](mailto:cawestchocolate@ca.blm.gov)